

IRRIGATION SYSTEM GENERAL NOTES:

1. ALL IRRIGATION SYSTEM COMPONENTS SHALL BE COMMERCIAL GRADE, NAME BRAND PRODUCTS AS DEEMED ACCEPTABLE BY LEHI CITY PARKS DEPT. ALL PRODUCTS MUST BE APPROVED PRIOR TO DESIGN AND INSTALLATION. THIS IS REQUIRED FOR STANDARDIZATION AND INVENTORY CONTROL. PRODUCT GUIDE CAN BE FOUND AT: <https://www.lehi-ut.gov/landscaping/>
2. IRRIGATION SYSTEMS SHALL BE CONSTRUCTED TO THE SIZES, GRADES AND LOCATIONS STATED HEREIN. CONTRACTOR SHALL COORDINATE WITH PARKS DEPT. FOR ALL CONTROLLER AND FILTER DESIGN. LOCATIONS OF IRRIGATION HEADS SHALL BE SUBJECT TO PARKS DEPARTMENT APPROVAL.
3. THE CONSTRUCTION OF SPRINKLER SYSTEMS SHALL INCLUDE THE FURNISHING, INSTALLING & PRESSURE TESTING OF ALL PIPE AND EQUIPMENT IN ACCORDANCE WITH BEST INDUSTRY STANDARD PRACTICES. THE REMOVAL AND/OR RESTORATION OF EXISTING IMPROVEMENTS, EXCAVATION, BACKFILL AND ALL OTHER WORK SHALL BE IN ACCORDANCE WITH LEHI CITY STANDARDS AND SPECIFICATIONS.
4. THE CONTRACTOR SHALL ADEQUATELY PROTECT THE WORK, ADJACENT PROPERTY AND THE PUBLIC-AND SHALL BE RESPONSIBLE FOR ANY DAMAGE, INJURY OR LOSS DUE TO NEGLECT.
5. THE CONTRACTOR SHALL AT ALL TIMES MAINTAIN SAFE PEDESTRIAN AND VEHICULAR WAYS AROUND ALL CONSTRUCTION AREAS. THIS MAY REQUIRE SIGNAGE, FENCING, BARRICADES OR OTHER APPROVED DEVICES AS REQUIRED BY THE PUBLIC WORKS OR PARKS DEPARTMENTS.
6. THE CONTRACTOR SHALL CONTACT PARKS DEPARTMENT FOR INSPECTION PRIOR TO START OF CONSTRUCTION. THE CONTRACTOR SHALL NOT ALLOW ANY OF THE WORK TO BE COVERED UNTIL IT HAS BEEN INSPECTED, TESTED AND APPROVED BY THE PARKS DEPARTMENT. SHOULD ANY OF THE WORK BE ENCLOSED PRIOR TO PROPER APPROVAL, THE CONTRACTOR SHALL UNCOVER AND RESTORE THE WORK AT HIS/HER OWN EXPENSE. RESTORATION SHALL INCLUDE ALL REPAIRS WITH SAME MATERIALS AND WORKMANSHIP SO THAT ALL WORK APPEARS SAME AND UNIFORM.

IRRIGATION SYSTEM GENERAL NOTES:

1. ORDINANCES & REGULATIONS: ALL LOCAL, MUNICIPAL & STATE LAWS, RULES AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE TO BE INCORPORATED INTO AND MADE A PART OF ALL PLANS AND SPECIFICATIONS. THE PROVISION OF SUCH SHALL BE CARRIED OUT BY THE LANDSCAPE ARCHITECT / ENGINEER AND CONTRACTORS. ANYTHING CONTAINED IN THESE SPECIFICATION SHALL NOT BE INSTALLED TO CONFLICT WITH ANY OF THE ORDINANCES AND REGULATIONS OF THE CITY OF LEHI. HOWEVER, THESE SPECIFICATIONS TAKE PRECEDENCE OVER THE REQUIREMENT OF SAID RULES AND REGULATIONS WHEN THEY DESCRIBE MATERIALS WORKMANSHIP OR CONSTRUCTION OF A HIGHER STANDARD, BETTER QUALITY OR LARGER SIZE.
2. BONDING AND INSPECTION: THE SPRINKLER SYSTEM INSTALL SHALL BE BONDED AS PART OF THE ENTIRE DEVELOPMENT OR PROJECT. BOND RELEASES SHALL BE HANDLED THROUGH THE LEHI CITY PROJECT MANAGER.
3. MATERIALS: WHENEVER ANY MATERIAL IS SPECIFIED BY NAME, MODEL OR PART NUMBER SUCH SPECIFICATIONS SHALL BE DEEMED TO BE USE FOR THE PURPOSE OF FACILITATING A DESCRIPTION OF THE MATERIALS AND ESTABLISHING QUALITY. NO SUBSTITUTION WILL BE PERMITTED UNLESS APPROVED BY THE PARKS DEPARTMENT IN WRITING.

RECORD DRAWINGS:

1. THE DESIGNER WILL FURNISH THE PARKS DEPARTMENT WITH FOUR PRELIMINARY SETS OF PLANS FOR REVIEW, SHOWING ALL SPRINKLER WORK REQUIRED. AFTER INITIAL REVIEW BY THE CITY, THE DESIGNER SHALL MAKE ALL NOTED CORRECTIONS AS DISCUSSED WITH CITY STAFF. THE DESIGNER SHALL THEN SUBMIT FOUR FINAL SETS OF PLANS.
2. UPON COMPLETION OF INSTALLATION, THE CONTRACTOR / DEVELOPER SHALL SUBMIT TO THE PARKS DEPARTMENT ONE SET OF RED-LINED AS-BUILT PLANS, BOTH IN PAPER COPY AND ELECTRONIC PDF FORM. ALL MAJOR COMPONENTS OF IRRIGATION SYSTEM SHALL BE SHOWN AS INSTALLED, WITH DIMENSIONS OFF OF HARD FEATURES. THE PROJECT WILL NOT BE ACCEPTED, GIVEN OCCUPANCY, OR RECEIVE RETENTION UNTIL AS-BUILTS ARE COMPLETE AND ACCEPTED BY THE PARKS DEPARTMENT.

01

IRRIGATION STANDARDS

SCALE: NTS

LANDSCAPE & IRRIGATION DETAIL



LEHI CITY
LANDSCAPE / IRRIGATION
STANDARD DETAILS
REQUIRED ON ALL CITY PROJECTS

PARKS DEPARTMENT
328400.0 IRRIGATION STANDARDS
SCALE : NO SCALE
DATE: 05/01/2020
REVISION:
REVISION DATE:

INSPECTIONS AND PROCEDURES:

- 1. THE IRRIGATION CONTRACTOR SHALL SET UP AN INSPECTION SCHEDULE WITH THE OAR. PRIOR TO EACH INSPECTION, THE CONTRACT SHALL GIVE NOTICE OF 24 HOURS / ONE BUSINESS DAY AS A REMINDER.
- 2. IN THE THE CONTRACTOR REQUESTS INSPECTION OF WORK AND SAID WORK IS SUBSTANTIALLY INCOMPLETE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY RE-SCHEDULING OR RE-INSPECTION FEES.
- 3. UPON COMPLETION OF THE IRRIGATION SYSTEM AND PASSING OF ALL INSPECTIONS AND PRESSURE TESTING, THE DEVELOPER / GENERAL CONTRACTOR / LANDSCAPE CONTRACTOR SHALL REQUEST A FINAL INSPECTION, APPROVAL AND ACCEPTANCE.
- 4. FROM THE DATE THE PROJECT IS TERMED SUBSTANTIALLY COMPLETE AND SATISFACTORY BY THE OAR, THE CONTRACTOR SHALL MAINTAIN, REPAIR AND REPLACE THE IRRIGATION SYSTEM COMPONENTS FOR ONE FULL YEAR.
- 5. AT THE END OF THE ONE YEAR WARRANTY AND MAINTENANCE PERIOD, UPON SATISFACTORY INSPECTION, THE OAR WILL RELEASE THE CONTRACTOR FROM THIS BURDEN AND PAY ANY RETENTION STILL HELD
- 6. THE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FROM THE PARKS DEPARTMENT OR APPROPRIATE CITY ENTITY, AS SUBSTANTIATED WITH A BOND RELEASE FOR THE COMPLETION OF ALL ITEMS, THAT THE CITY HAS ASSUMED ALL MAINTENANCE AND ALL WORK HAS BEEN SATISFACTORY.

FLUSHING AND TESTING:

- 1. AFTER ALL NEW IRRIGATION PIPING AND SWING JOINTS ARE INSTALLED, BUT PRIOR TO INSTALLATION OF HEADS AND OR NOZZLES--REMOTE CONTROL VALVES ARE TO BE OPENED AND A FULL HEAD OF WATER FLUSHED THROUGH THE SYSTEM PRIOR TO HEADS AND NOZZLES BEING INSTALLED AND COMPLETED.
- 2. SPRINKLER MAIN LINE PIPING SHALL BE TESTED AT 100 PSI FOR A PERIOD OF NO LESS THAN 2 HOURS. PRESSURE SHALL BE REACHED BY CONNECTING MOTORIZED PUMP INTO SYSTEM. PRESSURE LOSS SHALL NOT EXCEED 2.5 PSI

IRRIGATION SYSTEM GENERAL NOTES:

- 1. ALL PLASTIC PIPE FITTINGS SHALL BE SUITABLE FOR EITHER SOLVENT WELD OR THREADED CONNECTION. FITTINGS SHALL BE FACTORY-ASSEMBLED OR APPROPRIATE ALTERNATE. MAIN LINE FITTINGS 1" THROUGH 2" SHALL BE S/80 PVC. MAIN LINE FITTINGS 2-1/2" AND LARGER SHALL BE LEEMCO DUCTILE IRON WITH JOINT RESTRAINT.
- 2. ALL PVC SOLVENT WELD JOINTS SHALL BE PRIMED PRIOR TO GLUE APPLICATION. PRIMER SHALL BE IPS WeldOn P70, AND GLUE SHALL BE IPS WeldOn 711 NO EXCEPTIONS.

WIRING:

- 1. WIRING AND PULL BOXES SHALL FOLLOW NEC REQUIREMENTS
- 2. ALL WIRE RUNS SHALL BE CONTINUOUS (ALSO KNOWN AS 'HOME RUN'), UNLESS APPROVED BY OWNER IN WRITING.
- 3. ALL WIRING CONNECTIONS SHALL TAKE PLACE IN AN APPROPRIATE SIZED BOX
- 4. ALL WIRE CONNECTORS SHALL BE 3M DBR/Y-6 OR DBO/B-6, OR APPROVED EQUAL
- 5. ALL WIRING UNDER PAVING SHALL BE WITHIN GRAY S/40 PVC ELECTRICAL CONDUIT

POINT OF CONNECTION:

- 1. THE CONTRACTOR / DEVELOPER SHALL BE RESPONSIBLE FOR ANY FEES, PERMITS, ETC REQUIRED BY LEHI CITY.
- 2. THE CONTRACTOR / DEVELOPER SHALL BE RESPONSIBLE FOR TAP CONNECTION TO LEHI CITY CULINARY OR PRESSURIZED IRRIGATION WATER MAIN, INCLUDING ALL EQUIPMENT, LABOR, MATERIALS, ROAD CUT & REPAVING, AND TRAFFIC CONTROL, TO PROVIDE IRRIGATION TO PROJECT

02

IRRIGATION STANDARDS

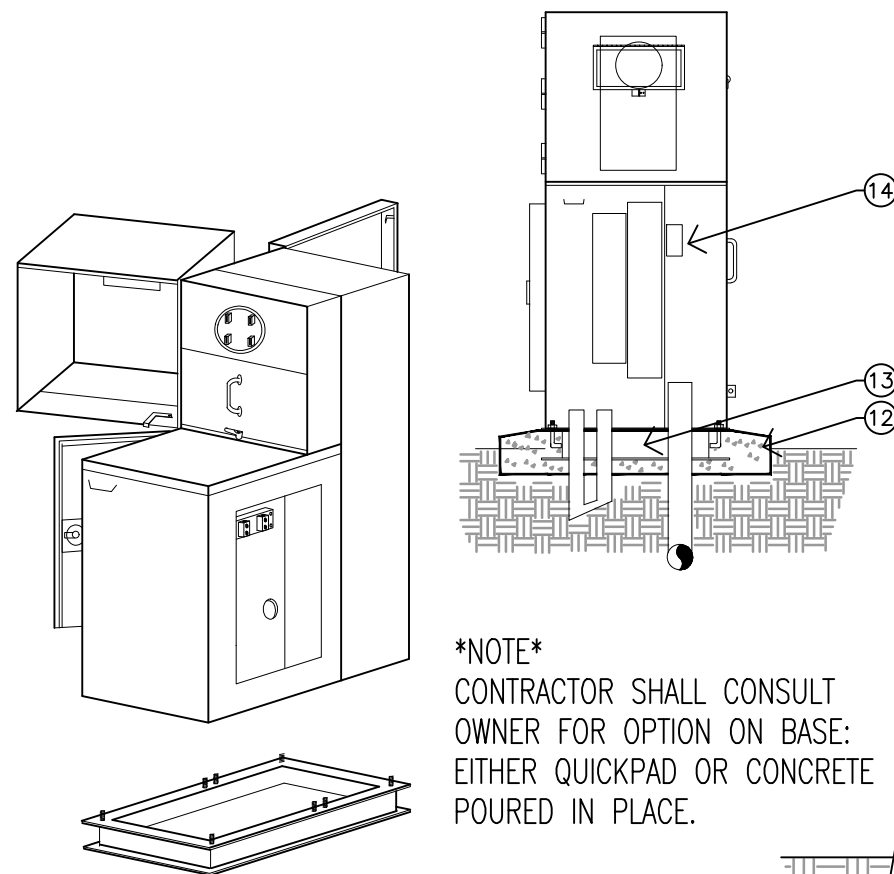
SCALE: NTS

LANDSCAPE & IRRIGATION DETAIL



LEHI CITY
LANDSCAPE / IRRIGATION
STANDARD DETAILS
REQUIRED ON ALL CITY PROJECTS

PARKS DEPARTMENT
328400.0 IRRIGATION STANDARDS
SCALE : NO SCALE
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NOTE
CONTRACTOR SHALL CONSULT
OWNER FOR OPTION ON BASE:
EITHER QUICKPAD OR CONCRETE
POURED IN PLACE.

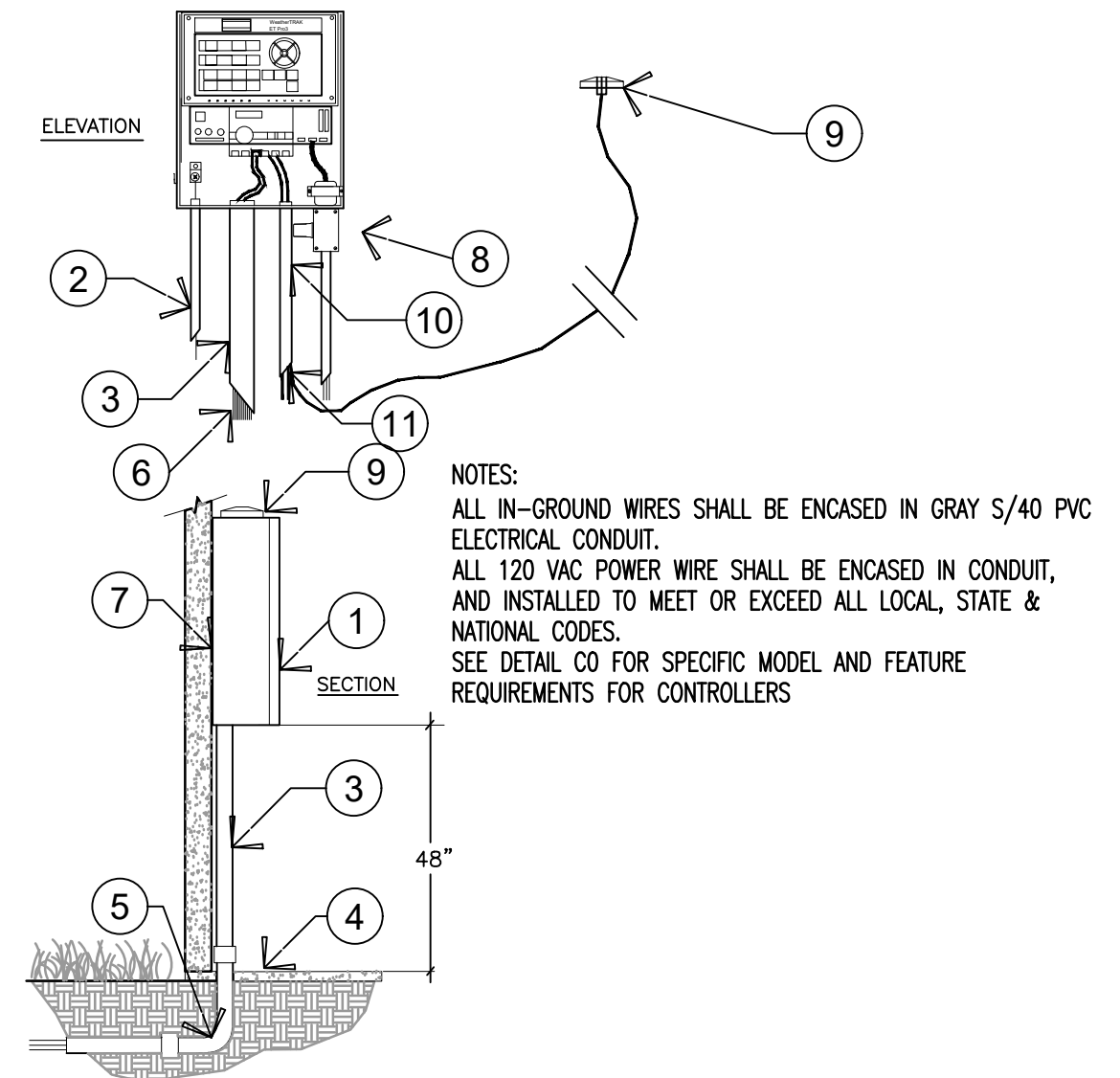
- ① STRONGBOX METER ENCLOSURE, STAINLESS STEEL NEMA TYPE 3R MPE-SERIES 100 OR 200 AMP SERVICE, OR ALLSPEC EQUAL.
- ② COMMERCIAL METER SOCKET 100A OR 200A WITH TEST BLOCKS.
- ③ SERVICE METER VIEWING WINDOW.
- ④ SIDE HINGED REMOVABLE FRONT LID.
- ⑤ LOAD CENTER WITH MAIN BREAKER.
- ⑥ STRONG BOX CONTROL ENCLOSURE FULL LENGTH FRONT DOOR, LOCKABLE, PART# SB-1852SS. 18" X 52" X 12"
- ⑦ LOAD CENTER COMPARTMENT, GASKETED DOOR T-HANDLE LOCKABLE.
- ⑧ LOAD CONDUIT FROM LOAD CENTER SECTION INTO CUSTOMER ENCLOSURE. MINIMUM 2" AS PER POWER COMPANY.
- ⑨ SERVICE LINE CONDUIT, 3" FROM UTILITY TRANSFORMER. WIRE SIZE PER NEC STANDARDS FOR AMP LOAD.
- ⑩ PEA GRAVEL 3/4 FULL INSIDE QUICKPAD BASE.
- ⑪ QUICKPAD MOUNTING PAD, PART #QP-MPE.
- ⑫ POURED CONCRETE BASE, 6" MIN THICKNESS. EXTEND BASE 12" WIDER THAN OUTSIDE DIMENSION OF ENCLOSURE ON ALL SIDES.
- ⑬ SAINLESS STEEL ANCHOR BASE INSTALLED DURING CONCRETE POUR.
- ⑭ UTILITY LANDING LUG COMPARTMENT.

A1 METER / CONTROLLER ENCLOSURE

SCALE: NTS

LANDSCAPE & IRRIGATION DETAIL

- ① WEATHERTRAK CONTROLLERS SHALL BE USED EXCLUSIVELY, STAINLESS STEEL CABINET.
- ② #6 AWG COPPER GROUND WIRE IN CONDUIT. CONNECT TO BUILDING GROUND AND SUPPLEMENTARY EXTERIOR GROUND PER ASIC GUIDELINES
- ③ 2" PVC S/40 GRAY ELECTRICAL CONDUIT. USE FOR BOTH 2-WIRE & CONVENTIONAL WIRE OPTIONS.
- ④ FINISH GRADE INSIDE OF BUILDING
- ⑤ 2" PVC S/40 GRAY ELECTRICAL LONG SWEEP ELL AND CONDUIT. USE FOR BOTH 2-WIRE AND CONVENTIONAL WIRE OPTIONS.
- ⑥ CONVENTIONAL OR DECODER WIRES.
- ⑦ INTERIOR WALL SURFACE. ANCHOR CONTROLLER TO WALL PER MANUFACTURER'S RECOMMENDATION, FACE PLATE AT 65" ABOVE FLOOR
- ⑧ 'J' BOX FOR 120 VAC TO CONTROLLER, INCLUDE AG-2401 SURGE DEVICE
- ⑨ LOW PROFILE ANTENNA, EXTEND AND MOUNT TO EXTERIOR OF BUILDING
- ⑩ 1" S/40 PVC SWEEP ELL AND CONDUIT FOR FLOW SENSOR & MASTER VALVE WIRE, OR HYDROMETER WIRE
- ⑪ FLOW SENSOR CABLE, MASTER VALVE WIRES, CELLULAR ANTENNA WIRE: PER SPECIFICATIONS.



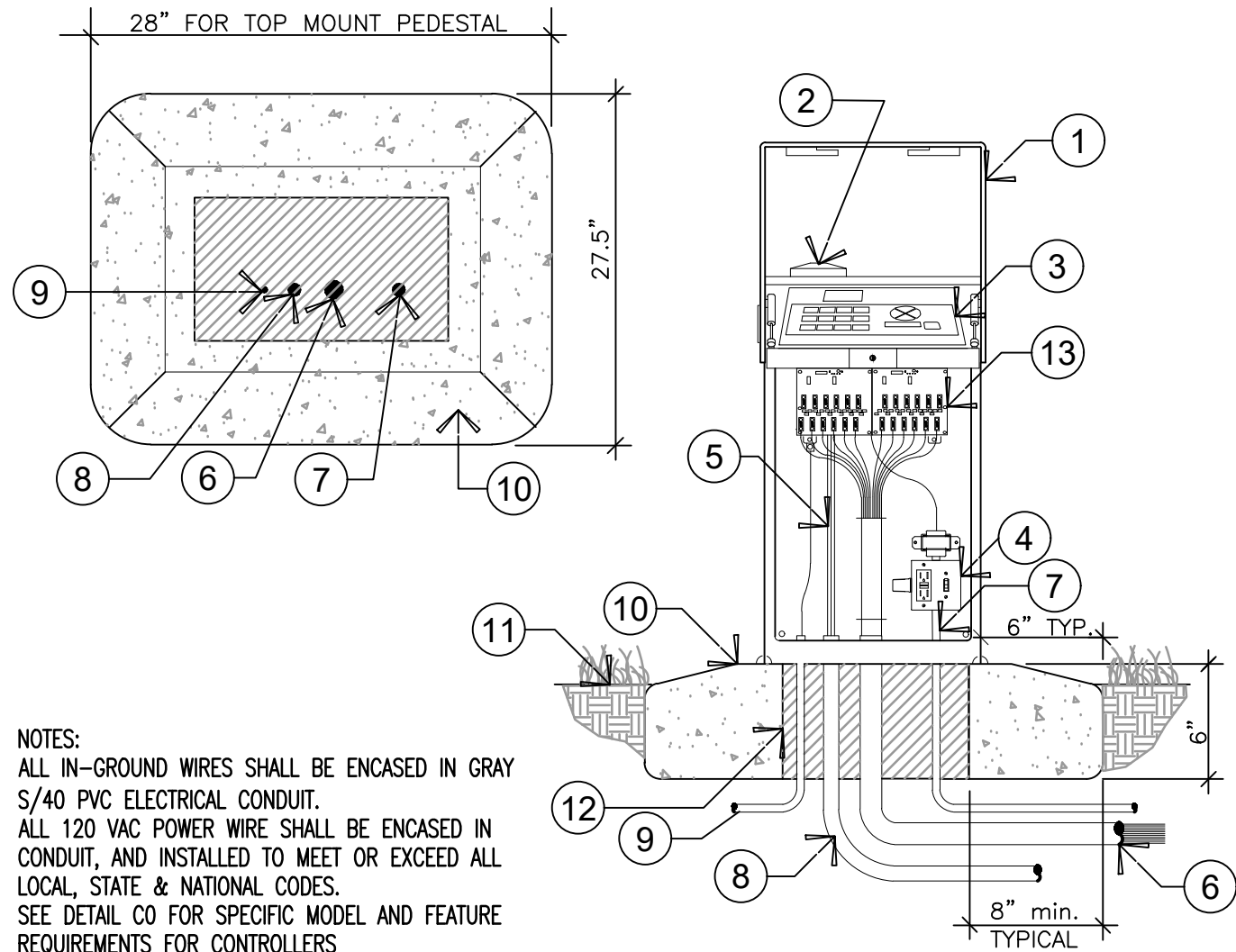
A2 INDOOR WALL MOUNT CONTROLLER SCALE: NTS

LANDSCAPE & IRRIGATION DETAIL

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- The technical drawing illustrates the 1000 Series In-ground Irrigation Controller in two views: ELEVATION and SECTION.
- ELEVATION View:** This view shows the front of the controller. It features a control panel with a digital display, a rotary selector switch, and several indicator lights. The panel is labeled "1000 SERIES" and "1000". The controller is mounted on a vertical post. The elevation view is labeled "ELEVATION" and includes callouts 1 through 11.
- SECTION View:** This view shows the controller installed in a ground pit. The controller is mounted on a vertical post. The section view is labeled "SECTION" and includes callouts 1 through 7. A dimension line indicates a height of 48" for the main body of the controller. The controller is shown with a water supply line (5) and a return line (6) connected to a valve (4) in the ground. The ground is shown with a cross-hatched pattern.

A3

LANDSCAPE & IRRIGATION DETAIL



NOTES:
 ALL IN-GROUND WIRES SHALL BE ENCASED IN GRAY S/40 PVC ELECTRICAL CONDUIT.
 ALL 120 VAC POWER WIRE SHALL BE ENCASED IN CONDUIT, AND INSTALLED TO MEET OR EXCEED ALL LOCAL, STATE & NATIONAL CODES.
 SEE DETAIL C0 FOR SPECIFIC MODEL AND FEATURE REQUIREMENTS FOR CONTROLLERS

NOTE:
 CONTRACTOR SHALL BE PREPARED TO INSTALL PEDESTAL CONTROLLER ON A POURED CONCRETE OR A VIT QUICKPAD BASE. OWNER SHALL NOTIFY CONTRACTOR WHICH BASE SHALL BE USED PRIOR TO COMMENCEMENT OF THE PROJECT. CONTRACTOR SHALL VERIFY NUMBER AND SIZE OF CONDUITS REQUIRED FOR INSTALLATION. PROVIDE A MINIMUM OF 2" OF CONCRETE FROM MOUNTING BOLT TO INTERIOR BASE OPENING.

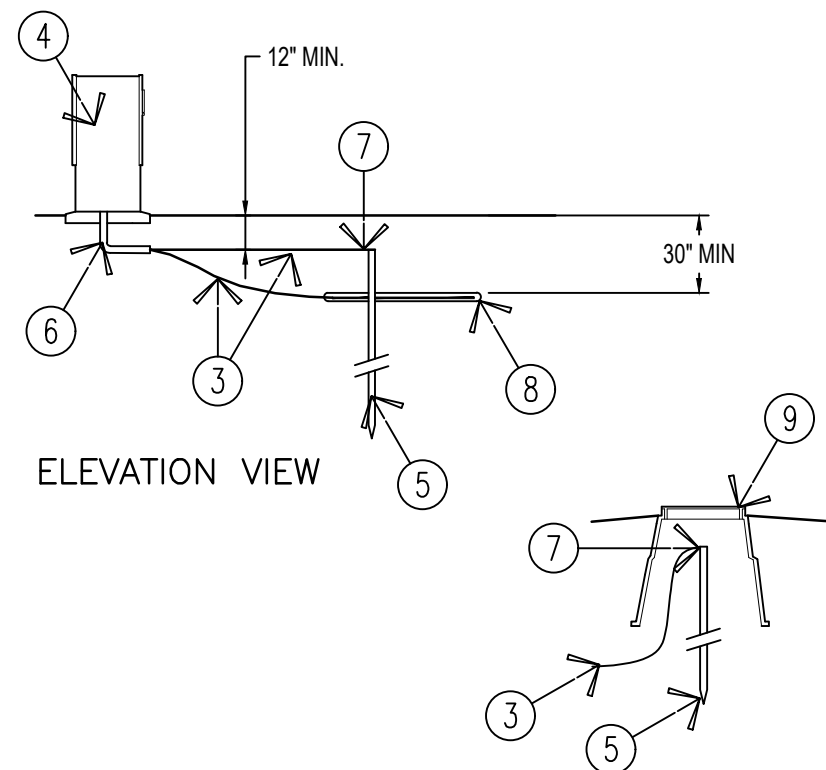
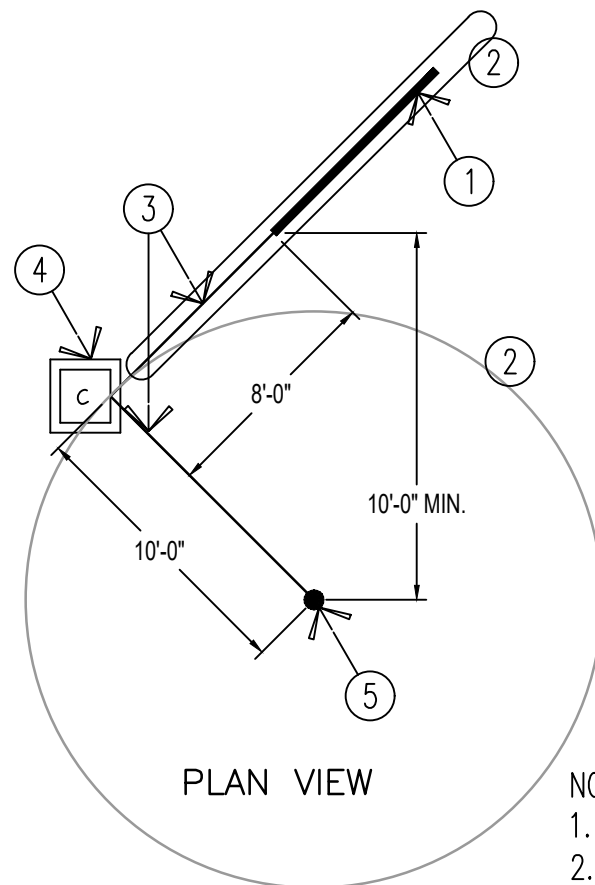
- ① WEATHERTRAK CONTROLLERS SHALL BE USED EXCLUSIVELY, STAINLESS STEEL CABINET
- ② LOW PROFILE ANTENNA
- ③ WEATHERTRAK ET PRO3 SERIES CONTROLLER. SEE C0 FOR MODEL AND FEATURE REQUIREMENTS
- ④ GFCI & POWER SWITCH. 120 VAC TO CONTROLLER, INCLUDE AG-2401 SURGE DEVICE
- ⑤ FLOW SENSOR CABLE & MASTER VALVE WIRES PER SPECIFICATIONS.
- ⑥ 3" PVC S/40 SWEEP 90 AND CONDUIT FOR CONTROL WIRES.
- ⑦ 1" PVC S/40 SWEEP 90 AND CONDUIT FOR 120 VAC FROM METERED SUPPLY.
- ⑧ 2" PVC S/40 SWEEP 90 AND CONDUIT FOR FLOW SENSOR AND MASTER VALVE WIRING.
- ⑨ 1-1/2" PVC S/40 SWEEP 90 AND CONDUIT FOR GROUNDING, PER ASIC GUIDELINES.
- ⑩ POURED CONCRETE BASE, SLOPE TO DRAIN
- ⑪ FINISH GRADE, 2" BELOW TOP OF CONCRETE BASE
- ⑫ FILL VOIDS WITH CONCRETE SLURRY MIX

A4

PEDESTAL TOP ENTRY ENCLOSURE

SCALE: NTS

LANDSCAPE & IRRIGATION DETAIL



- ① COPPER GROUND PLATE
(4" X 96" X .0625")
- ② ELECTRICAL SPHERE OF
INFLUENCE BOUNDARIES
- ③ #6 AWG BARE COPPER WIRE
- ④ IRRIGATION CONTROLLER,
SEE OTHER DETAILS
- ⑤ 5/8" X 10' UL LISTED
COPPER CLAD GROUND ROD
- ⑥ PVC SWEEP ELL, 1-1/2"
OR LARGER
- ⑦ 'CADWELD' CONNECTION
- ⑧ 'POWER SET' EARTH
CONTACT MATERIAL
- ⑨ 10" ROUND VALVE BOX

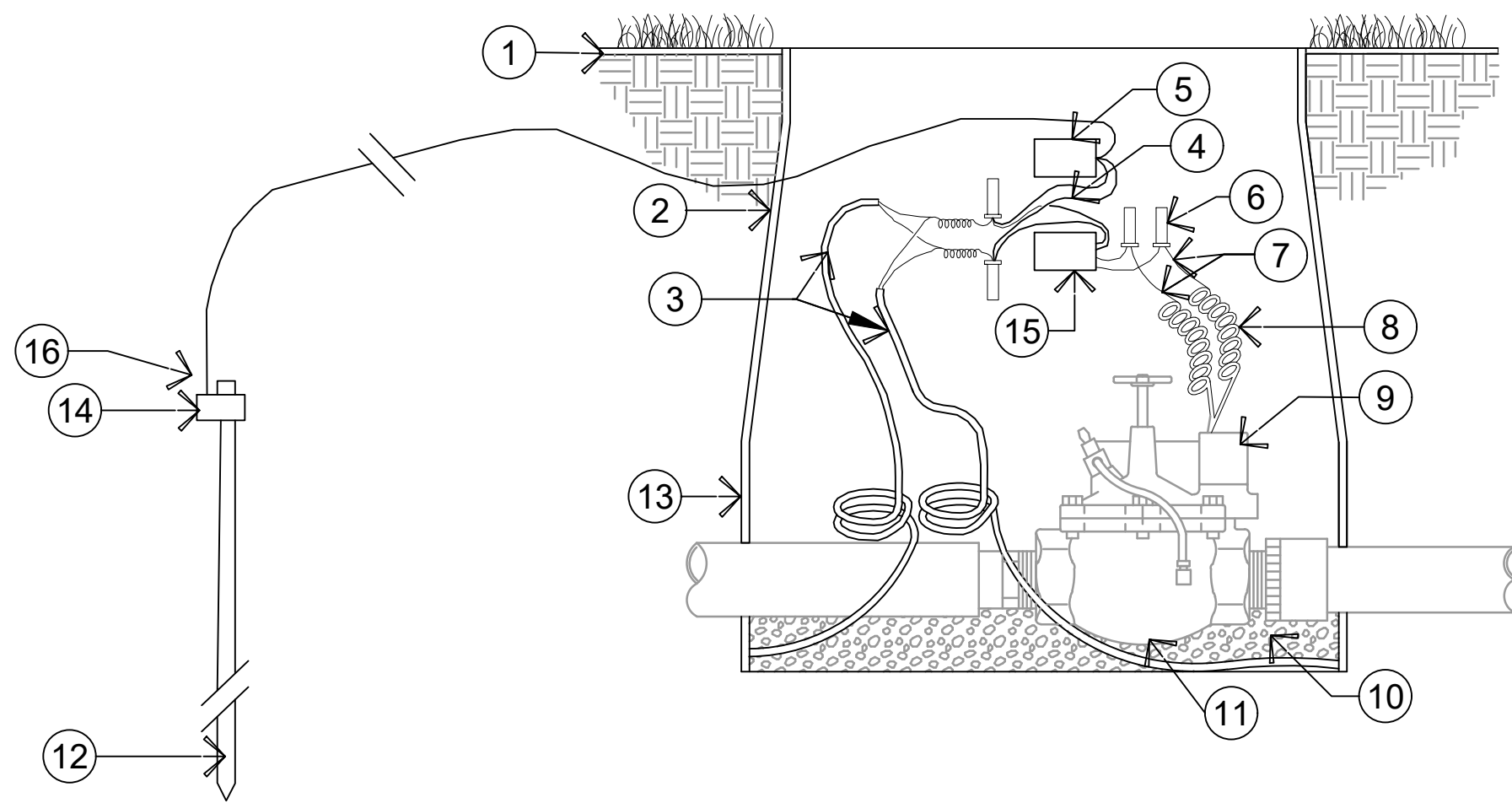
NOTES:

1. DO NOT INSTALL ANY OTHER WIRES OR CABLE WITHIN THE SPHERE OF INFLUENCE AREA.
2. PLACE 100 LB POWER SET SOIL AMENDMENT WITH EACH PLATE PER MANUFACTURER'S RECOMMENDATIONS.
3. IF 'V' OPTION IS NOT AVAILABLE GROUND ROD AND PLATE CAN BE INSTALLED IN-LINE, ROD FIRST.

A5 GROUNDING GRID INSTALLATION

SCALE: NTS

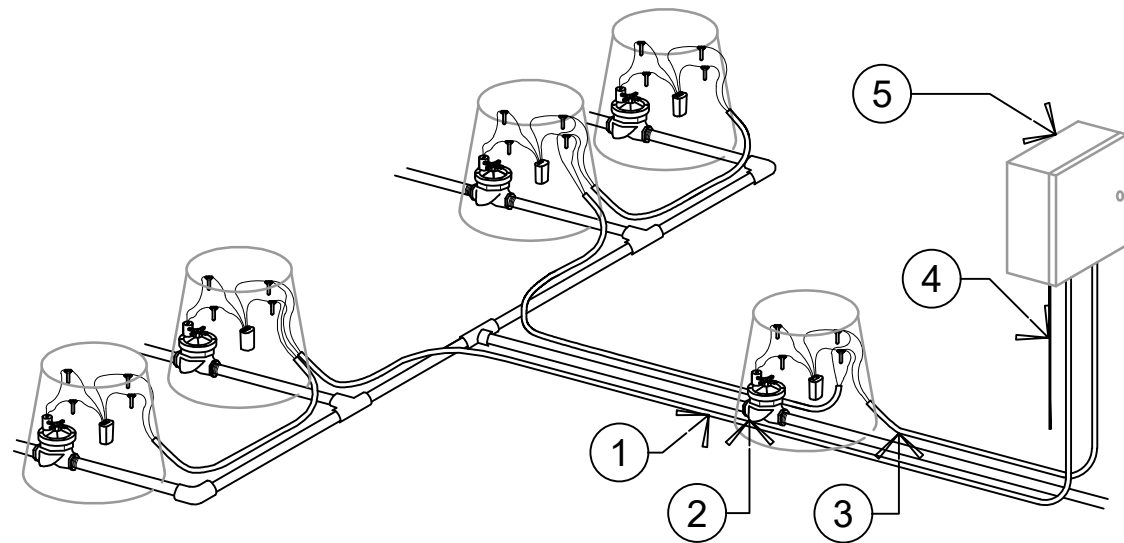
LANDSCAPE & IRRIGATION DETAIL



- ① FINISH GRADE
- ② VALVE BOX
- ③ 2-WIRE COMMUNICATION PATH *IN CONDUIT*
- ④ WIRES TO 2-WIRE COMMUNICATION PATH
- ⑤ WT2W-H2O-SA SURGE ARRESTOR
- ⑥ 3M DBR/Y-6 SPLICE
- ⑦ WIRES TO SOLENOID
- ⑧ EXPANSION COILS
- ⑨ SOLENOID
- ⑩ GRAVEL
- ⑪ ELECTRIC VALVE (SEE OTHER DETAIL)
- ⑫ 5/8" DIA. X 8' COPPER CLAD GROUND ROD DRIVEN INTO GROUND WITH TOP OF ROD A MIN. OF 6" BELOW GRADE. 10 OHMS OR LESS. LOCATE PER WEATHERTRAK REQ'S.
- ⑬ EXTENSION (LENGTH AS REQUIRED)
- ⑭ CAD WELD CONNECTION
- ⑮ TWO WIRE DECODER PER SPECIFICATION
- ⑯ GROUND WIRE OF WT2W-H2O-SA CONNECTED TO GROUND ROD.

B1 2-WIRE DECODER, SURGE PROTECTOR, GROUNDING SCALE: NTS

LANDSCAPE & IRRIGATION DETAIL



NOTES:

- A. ALL WIRE SPlicing SHALL BE MADE WITH APPROVED CONNECTIONS.
- B. MAKE ALL WIRE SPLICES IN VALVE BOXES.
- C. LEAVE A MINIMUM OF 12" EXTRA WIRE AT ALL SPLICE POINTS.
- D. MAXIMUM DISTANCE FROM DECODER TO VALVE = 150 FT.
- E. MAXIMUM WIRE LENGTH = 10,200 FT.
- F. WIRE LENGTHS INCLUDE MASTER VALVE AND #16/2 WIRE
- G. INCLUDE A LABELED PAIGE WIRE 'DECODER CABLE FUSE DEVICES' (DCFD's) AT ALL BRANCHES OR INTERSECTIONS.
- H. REFER TO OTHER DETAILS FOR SURGE PROTECTION

- ① WIRE PATH #1
- ② MASTER VALVE
- ③ WIRE PATH #2
- ④ 120 VAC POWER
- ⑤ CONTROLLER SHOWN AS REFERENCE ONLY

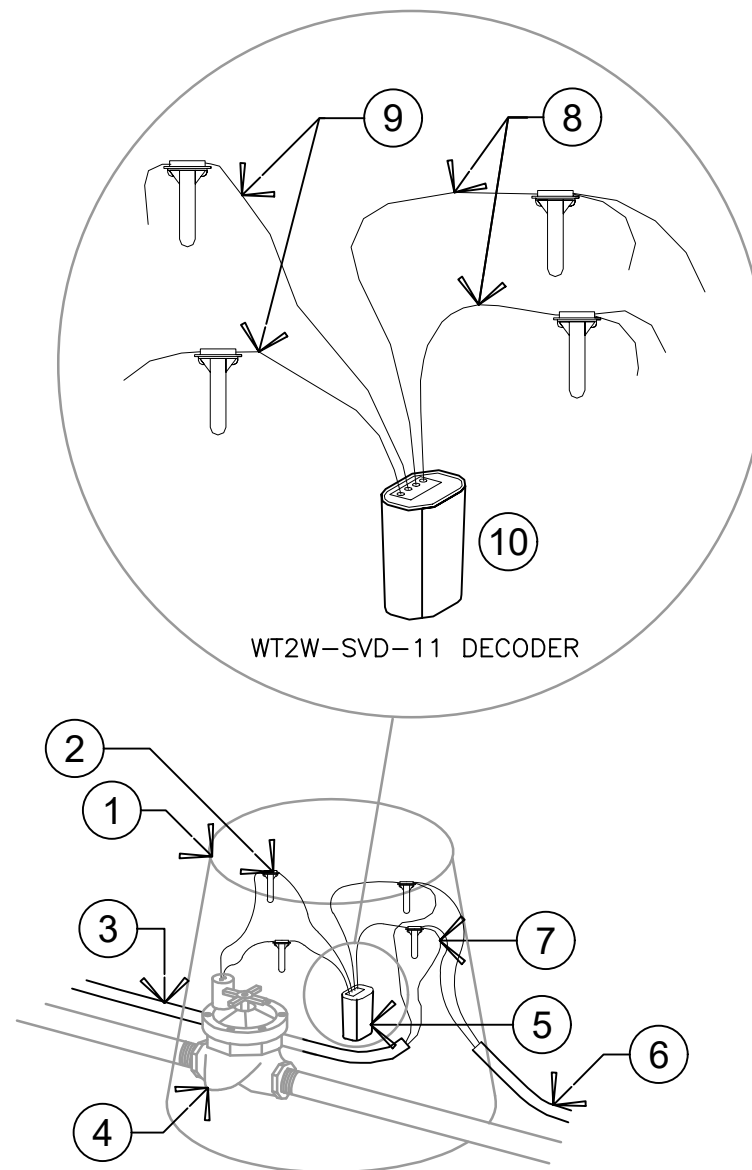
NUMBER OF SIMULTANEOUS VALVES	VALVES EVENLY DISTRIBUTED ALONG 2-WIRE (FT)		
	AWG 18	AWG 16	AWG 14
1	7.000	11.000	17.800
2	6.400	10.200	16.300
3	5.500	8.800	14.100
4	4.900	7.800	12.500
5	4.400	7.000	11.200
6	4.000	6.300	10.100
7	3.600	5.800	9.200
8	3.300	5.300	8.500

WORST CASE 2-WIRE PATH LENGTH LIMITS WITH ALL DECODERS AT END OF 2-WIRE PATH	
NUMBER OF ACTIVE VALVES ON 2-WIRE PATH	MAXIMUM WIRE LENGTH (FT) ASSUMING #16/2 WIRE
1	6,200
2	5,600
3	4,900
4	4,300

B2 2-WIRE MULTIPLE PATH EXAMPLE

SCALE: NTS

LANDSCAPE & IRRIGATION

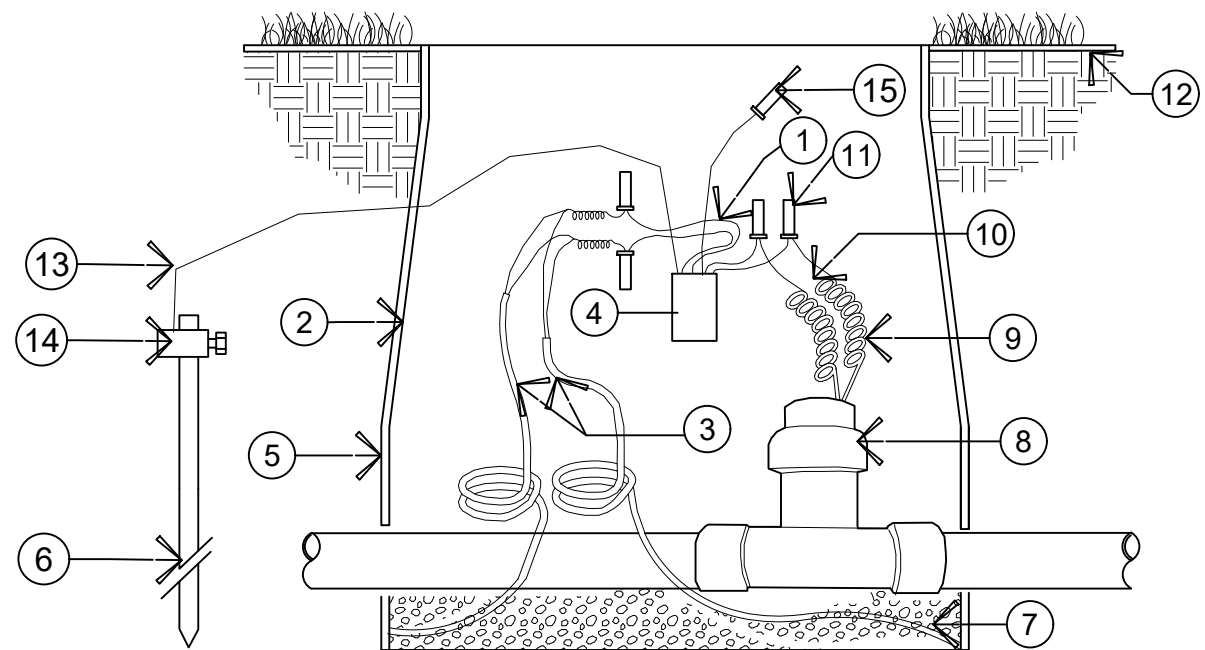


- ① VALVE BOX
- ② SPLICE (WHITE)
- ③ CONDUIT 2-WIRE PATH
- ④ STATION CONTROL VALVE
- ⑤ 2-WIRE STATION DECODER
- ⑥ 2-WIRE PATH *ALL WIRE IN CONDUIT*
- ⑦ SPLICE
- ⑧ WHITE WIRES TO VALVE SOLENOID
- ⑨ WIRES CONNECT TO 2-WIRE PATH
- ⑩ LABEL DECODER WITH STATION NUMBER

B3 2-WIRE DECODER WIRING

SCALE: NTS

LANDSCAPE & IRRIGATION DETAIL



- ① BLUE WIRES TO 2-WIRE COMMUNICATION PATH
- ② VALVE BOX
- ③ 2-WIRE PATH *ALL WIRE IN CONDUIT*
- ④ WT2W-FD (FLOW DECODER)
- ⑤ EXTENSION (LENGTH AS REQUIRED)
- ⑥ 5/8" DIA. X 8' COPPER GROUND ROD
DRIVEN INTO GROUND WITH TOP OF ROD A MIN OF 6" BELOW GRADE. 50 OHMS OR LESS.
- ⑦ GRAVEL
- ⑧ FLOW SENSOR
- ⑨ EXPANSION COILS
- ⑩ RED AND BLACK WIRES TO FLOW SENSOR
- ⑪ 3M DBR/Y-6 SPLICE
- ⑫ FINISH GRADE
- ⑬ GREEN/ YELLOW STRIPED WIRES TO GROUNDING ROD
- ⑭ CAD WELD CONNECTION
- ⑮ SINGLE GREEN WIRE-OPTIONAL LED POWER- CAP WHEN NOT IN USE

B4 2-WIRE FLOW DECODER WIRING SCALE: NTS

LANDSCAPE & IRRIGATION DETAIL

POC SIZE	SHUT OFF SIZE	MAIN LINE SIZE	FILTER SIZE	AMIAD FILTER MODEL	MASTER VALVE SIZE	MASTER VALVE HUNTER INDUSTRIES	FLOW METER SIZE	FLOW METER FLOWMEC	MAXIMUM AREA OF COVERAGE
1"	1"	1-1/4"	1-1/2"	Compact Super w/130 micron screen	1"	IBV-101G-FS	1"	QS200-10	Up to 20,000 sq/ft
2"	2"	2"	2"	Mini Sigma on-line threaded w/130 mesh screen	1-1/2"	IBV-151G-FS	1-1/2"	QS200-15	Up to 75,000 sq/ft
2"	2"	2-1/2"	2"	Mini Sigma on-line threaded w/130 mesh screen	2"	IBV-201G-FS	2"	QS200-20	Up to 115,000 sq/ft
4"	4"	3"	3"	Mini Sigma on-line flanged w/130 mesh screen	3"	IBV-301G-FS	3"	QS200-30	Up to 165,000 sq/ft
4"	4"	4"	4"	Mini Sigma on-line flanged w/130 mesh screen	3"	IBV-301G-FS	3"	QS200-30	Up to 300,000 sq/ft
6"	6"	6"	6"	Filtomat Model M106-XLP	4"	NETAFIM LV61MELNC41F-HP	4"	QS200-40	Up to 650,000 sq/ft

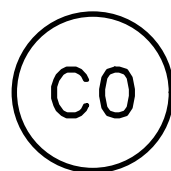
Equipment Notes:

- 3/4" POC's, Stop & Waste Valves or lateral line pipe shall not be allowed or accepted by Lehi City for design or construction.
- Minimum Main Line size acceptable is 1-1/4" 1" Main line shall not be allowed or accepted by Lehi City for design or construction.
- 1-1/2" POC's, Stop & Waste Valves, Main Line pipe, shall not be allowed or accepted by Lehi City for design or construction.
- 3" POC's, Shut-off Valves, shall not be accepted by Lehi City for design or construction. (3" main, and 3" line valves ARE acceptable)

For areas over 650,000 sq/ft or 15 acres, consult with Lehi City Parks, Water & Engineering to determine proper equipment sizing.

Controller Notes:

- All controllers shall be WeatherTRAK, with Stainless Steel Cabinets. Pedestal shall be slope-top models only.
- Controller station count shall be 12, 24, 36 or 48 only. Leave at least 10% of station count unused, or size up to next multiple of 12
- Controllers through station counts of 22 shall be conventional wiring. Controllers with station counts of 24 and more shall be 2-wire decoder only
- All controllers shall include additional 9 years of WeatherTRAK service.
- Controllers 13 GPM's through 50 GPM's shall be basic WeatherTRAK model, all models 51 GPM's and larger shall include Optiflow option
- All controllers shall include WeatherTRAK Factory Trained Technician commissioning.



EQUIPMENT SPECIFICATION / SIZING TABLE

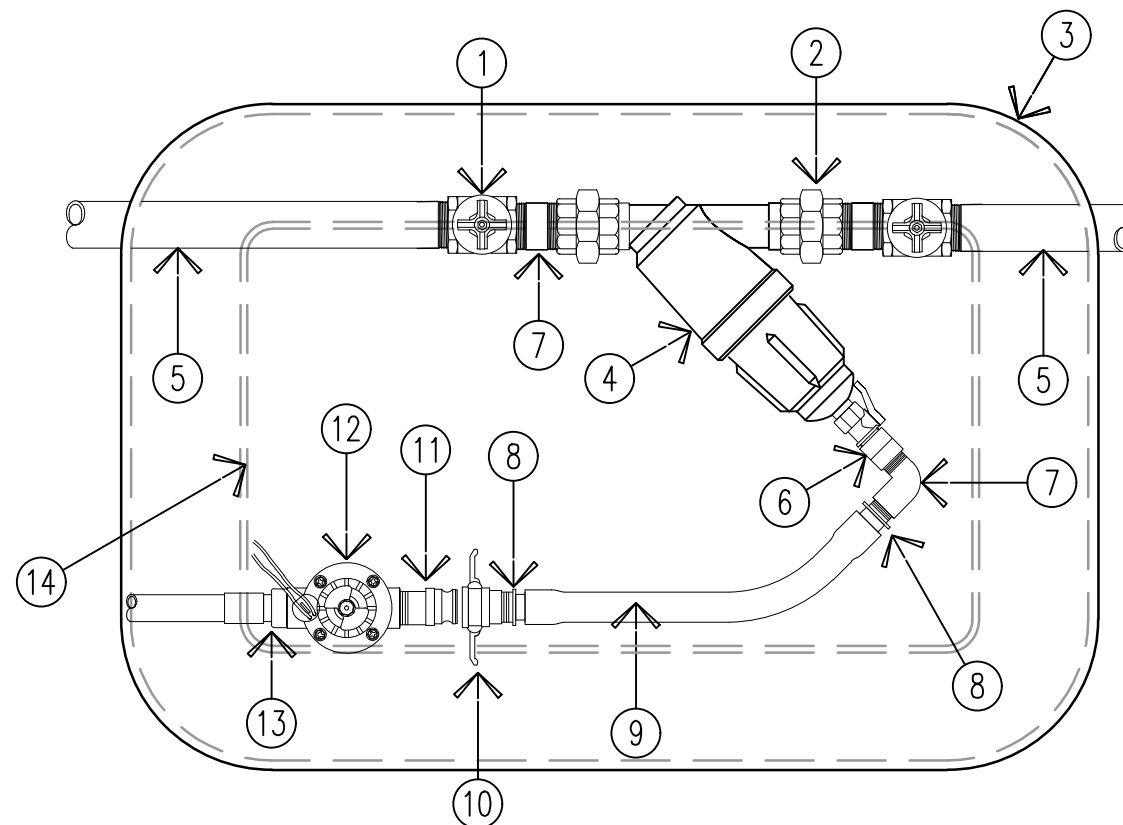
SCALE: NTS

LANDSCAPE & IRRIGATION DETAIL



LEHI CITY
LANDSCAPE / IRRIGATION
STANDARD DETAILS
REQUIRED ON ALL CITY PROJECTS

PARKS DEPARTMENT
328414.0 EQUIPMENT SIZING TABLE
SCALE : NONE
DATE: 05/01/2020
REVISION:
REVISION DATE:



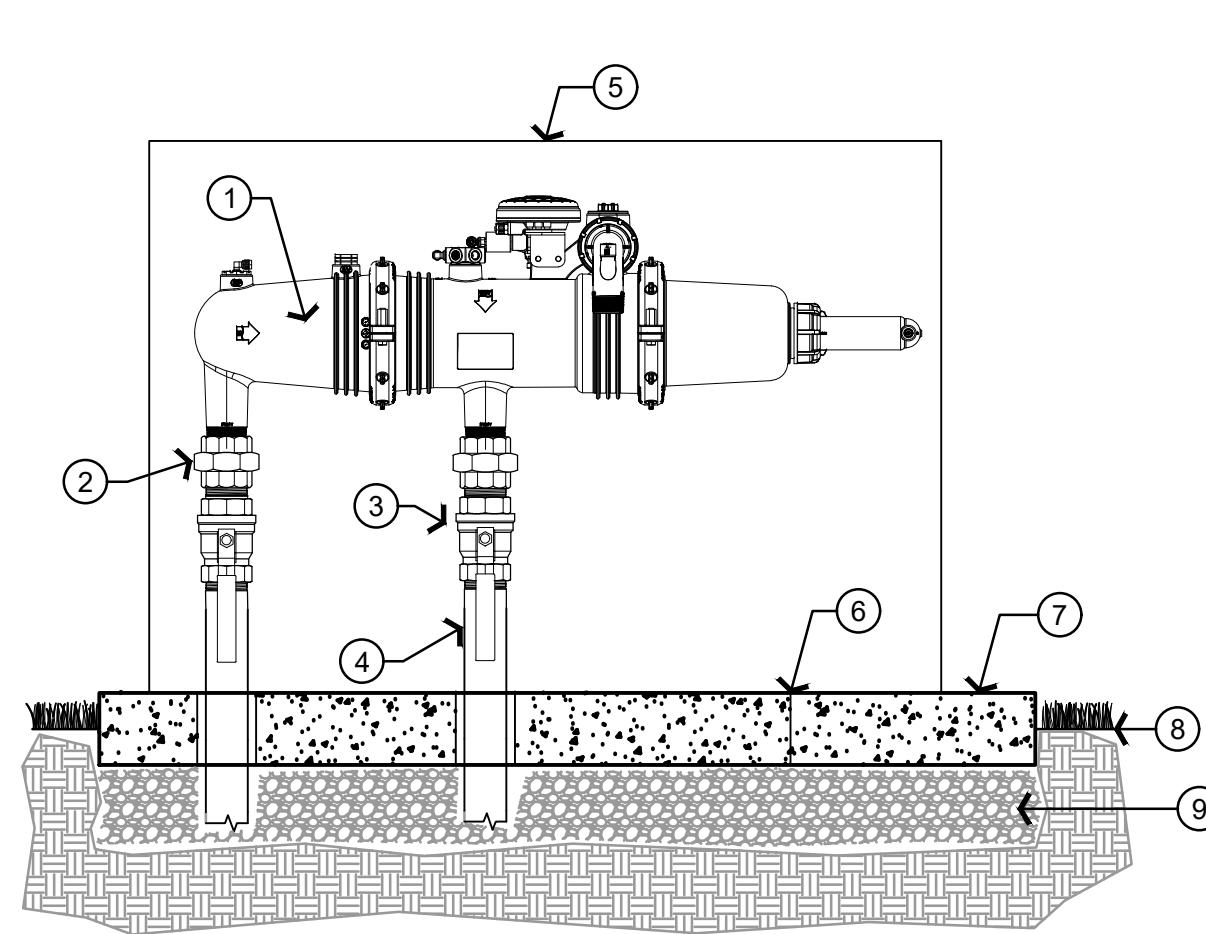
NOTE: PLAN VIEW
NOT SHOWN, WRAP ALL VALVE BOXES IN DeWITT PRO5
WEED FABRIC, THEN 1/2" GALVANIZED HARDWARE CLOTH

- ① LEEMCO STAINLESS STEEL GATE VALVE (2)
- ② S/80 PVC THREAD X THREAD UNION (2)
- ③ CARSON 173018 VALVE BOX. STACK 6 BRICKS
BELOW. 4" GRAVEL BELOW
- ④ AMIAD SUPER FILTER 130 MICRON
- ⑤ TOE NIPPLE, LINE SIZE
- ⑥ BRASS AP-106 FEMALE HOSE THREAD X FIPT ADAPTER
- ⑦ 3/4" S/40 PVC STREET ELBOW 412-007
- ⑧ 3/4" MIPT X 1" INSERT NIPPLE M/N# 1436-102
- ⑨ 1" 150 PSI FIBER REINFORCED HOSE W/WORM DRIVE CLAMPS
- ⑩ CAMLOCK FEMALE X 1" BARBED INSERT FITTING
- ⑪ MALE X MALE, CAMLOCK X MIPT NIPPLE
- ⑫ SCRUBBER RCV FLUSH VALVE. PIPE TO DAYLIGHT
SET AS LAST STATION ON CONTROLLER,
1 MINUTE RUN TIME PER CYCLE
- ⑬ ACTION MANIFOLD FITTINGS: 18011 MALE TRANSITION NIPPLE &
18013 GLUE ADAPTER
- ⑭ VALVE BOX OPENING

C1 SMALL FILTER (1"-2", 13-50 GPM's)

SCALE: NTS

LANDSCAPE & IRRIGATION DETAIL

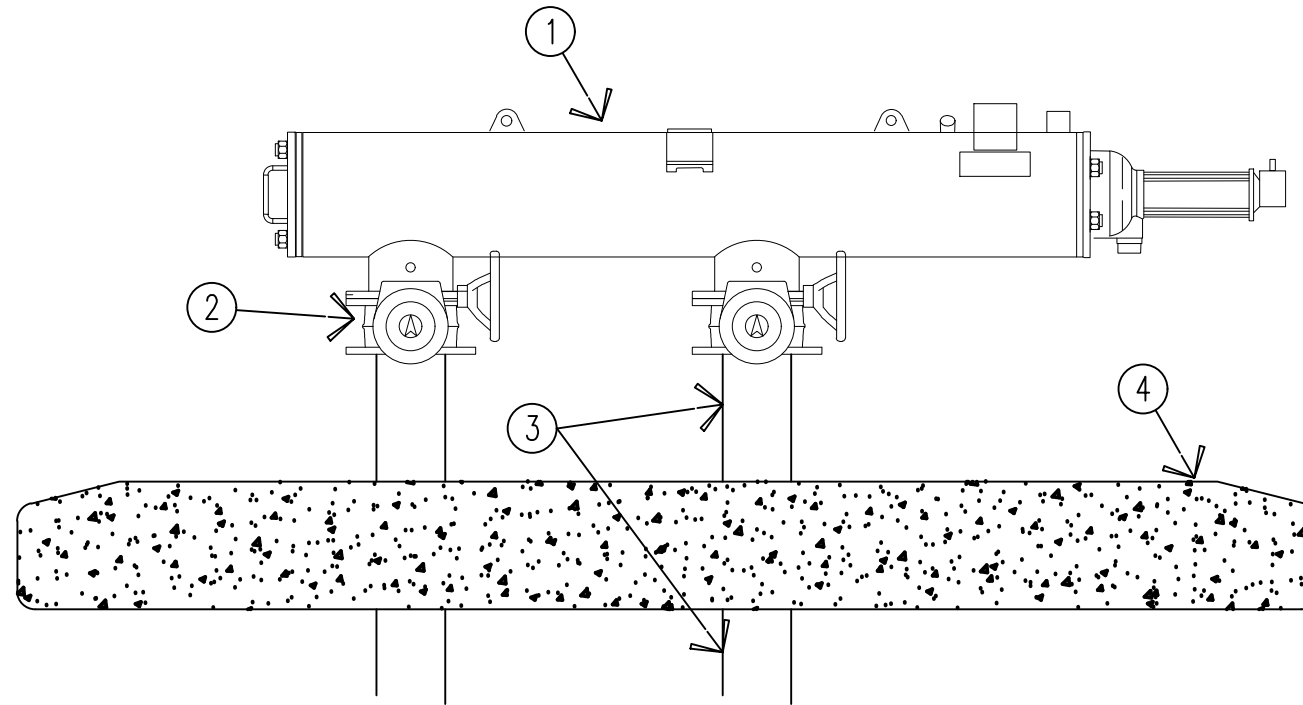


- ① AUTOMATIC FILTER – SELF FLUSHING, BATTERY OPERATED. FLUSHING ON TIMED SCHEDULE AS WELL AS ON PRESSURE DIFFERENTIAL. 130 MICRON
- ② STAINLESS UNIONS LINE SIZE (FLANGES FOR 3–4")
- ③ STAINLESS STEEL BALL VALVES. LINE SIZE (BUTTERFLY VALVES FOR 3" & 4" SIZES)
- ④ STAINLESS NIPPLES AND FITTINGS AS REQUIRED
- ⑤ FILTER ENCLOSURE. MAKE, MODEL, SIZE PER PLAN.
- ⑥ SLEEVE THROUGH PAD. MINIMUM 2X PIPE SIZE WITHIN.
- ⑦ CONCRETE SLAB, 6" THICK, 12' LARGER THAN ENCLOSURE ON ALL SIDES. FINISH SLAB ELEVATION 3" ABOVE FINISH LANDSCAPE GRADE
- ⑧ FINISH GRADE
- ⑨ COMPACTED BASE FILL UNDER PAD. MINIMUM 6", 95% PROCTOR

C2 MEDIUM FILTER (2"–4", 55–200 GPM's)

SCALE: NTS

LANDSCAPE & IRRIGATION DETAIL



① AMIAD FILTOMAT M106XLP W/130 MICRON SCREEN & DC RINSE CONTROLLER

② BUTTERFLY VALVES

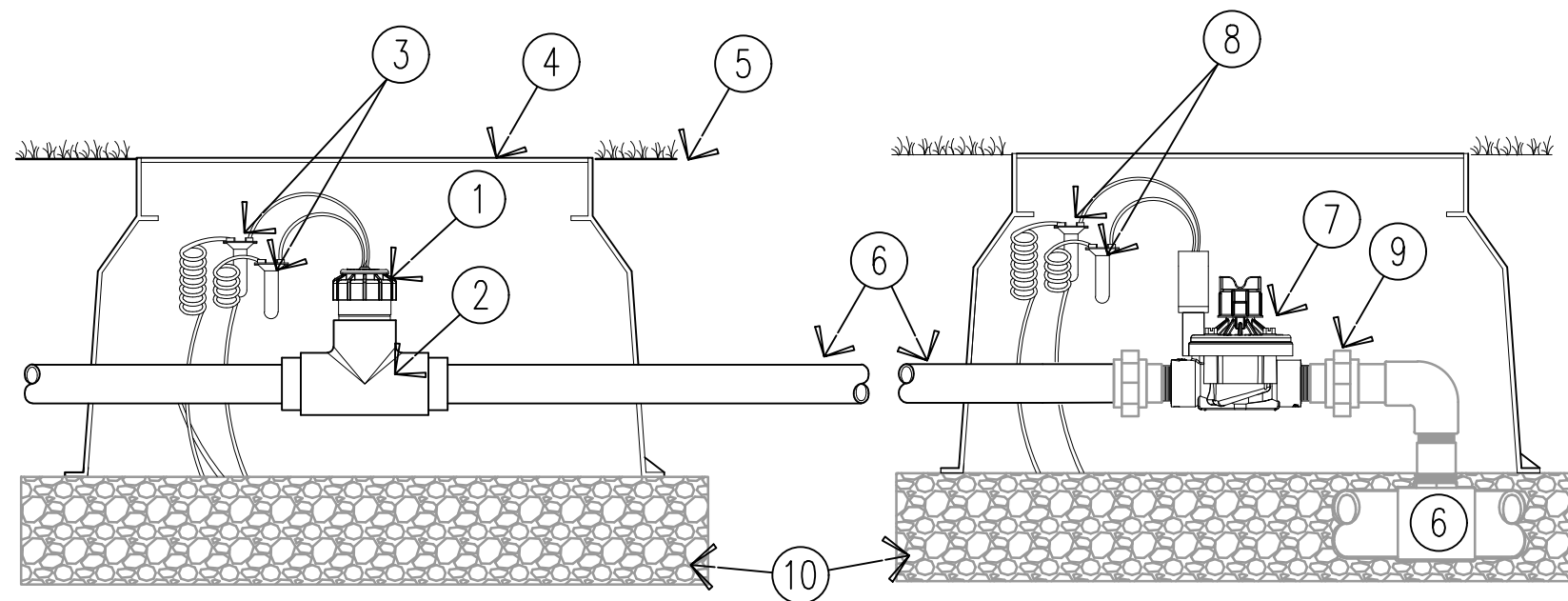
③ ALL FITTINGS AND SPOOLS TO BE DUCTILE IRON

④ 6" THICK, POURED CONCRETE PAD. MUST EXTEND 24" LARGER THAN SHADOW OF FILTER.

C3 LARGE FILTER 4"–6", 200–425 GPM's

SCALE: NTS

SECTION VIEW DETAIL



- ① ULTRASONIC FLOW METER MODULE
- ② S/80 PVC TEE
- ③ COMM WIRE AS REQUIRED FROM FLOW METER BACK TO CONTROLLER
- ④ VALVE BOX, SIZED TO ALLOW SERVICE
- ⑤ FINISH GRADE
- ⑥ MAIN LINE PIPE
- ⑦ MASTER VALVE, SEE OTHER DETAILS
- ⑧ CONTROL WIRE AS REQUIRED FROM MASTER VALVE BACK TO CONTROLLER
- ⑨ USE UNIONS ON THREADED FITTINGS OR FLANGES, BOTH SIDES
- ⑩ 3/4" GRAVEL BASE

NOTE

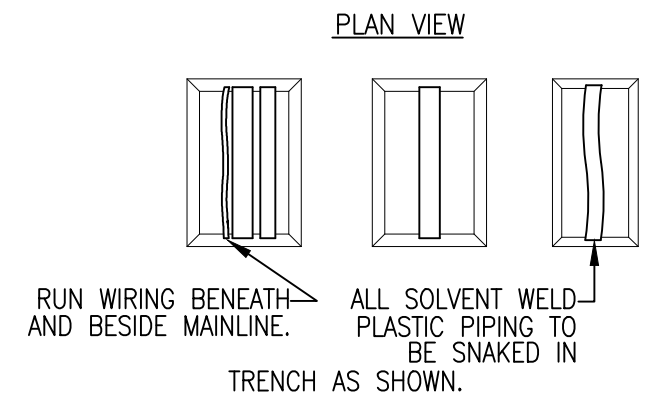
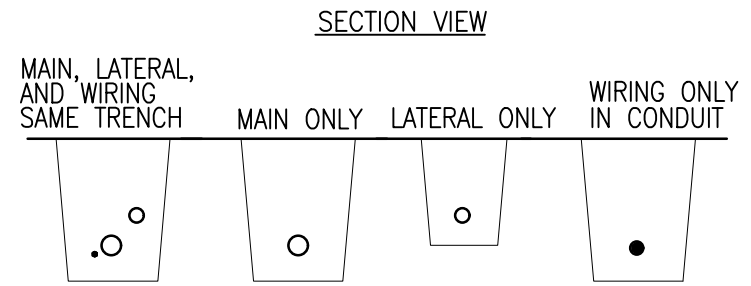
INLET PIPE LENGTH OF FLOW METER MUST BE A MINIMUM OF 10X THE PIPE DIAMETER; OF STRAIGHT, CLEAN RUN OF PIPE, NO FITTINGS OR TURNS. OUTLET PIPE LENGTH OF FLOW METER MUST BE A MINIMUM OF 5X THE PIPE DIAMETER OF STRAIGHT CLEAN RUN OF PIPE, NO FITTINGS OR TURNS.

D1

MASTER VALVE & FLOW METER

SCALE: NTS

LANDSCAPE & IRRIGATION DETAIL



- NOTES:
1. SLEEVES SHALL BE TWICE THE DIAMETER OF THE PIPE WITHIN.
 2. PIPE AND WIRE SHALL BE PLACED IN SEPARATE SLEEVES.
 3. MAIN LINE SHALL HAVE 18" COVER, LATERAL LINE SHALL HAVE 8-12" MIN. COVER.
 4. ALL WIRING SHALL BE ENCLOSED IN CONDUIT: CONTROL WIRE, 2-WIRE, POWER WIRE.

E1

PIPE/WIRE IN TRENCH

SCALE: NTS

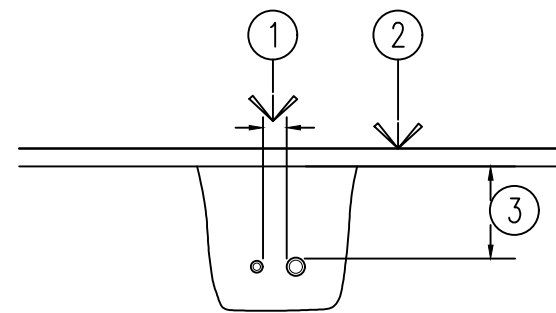
LANDSCAPE & IRRIGATION DETAIL

LANDSCAPE & IRRIGATION DETAIL

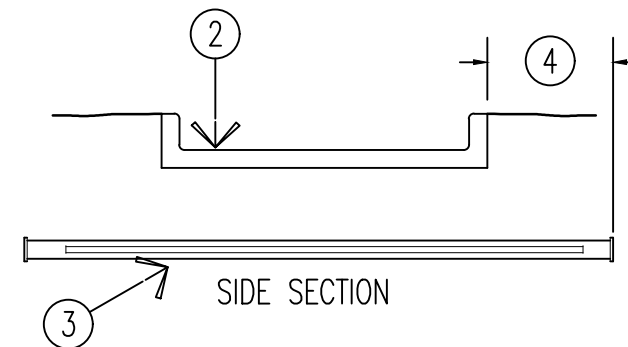


LEHI CITY
LANDSCAPE / IRRIGATION
STANDARD DETAILS
REQUIRED ON ALL CITY PROJECTS

PARKS DEPARTMENT
328421.0 TRENCHING
SCALE : NONE
DATE: 05/01/2020
REVISION:
REVISION DATE:



END SECTION



SIDE SECTION

- ① 4" MINIMUM CLEARANCE
- ② FINISH GRADE
- ③ 18" MINIMUM, 24" MAXIMUM
PIPE COVER
- ④ 6" MINIMUM, 18" MAXIMUM

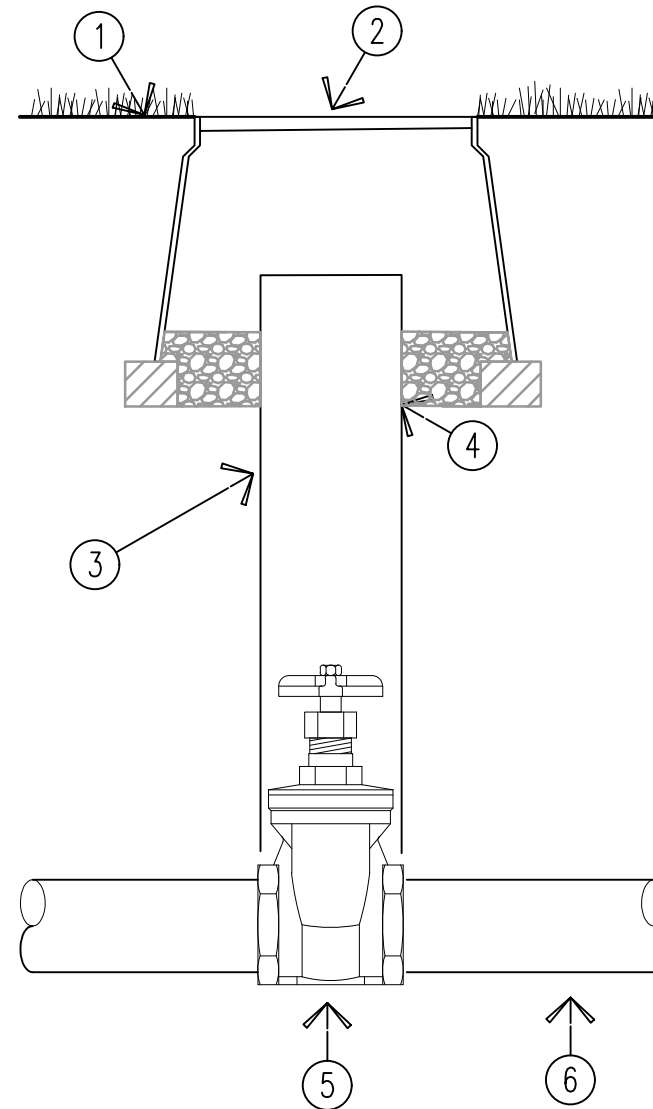
SLEEVES TO BE 2X PIPE SIZE WITHIN. JOINTS TO BE WATERTIGHT. MECHANICALLY TAMP TO 95% PROCTOR.
ALL WIRE SLEEVING SHALL BE GRAY S/40 ELECTRICAL CONDUIT. NO EXCEPTIONS.

E2 SLEEVING

SCALE: NTS

LANDSCAPE & IRRIGATION DETAIL

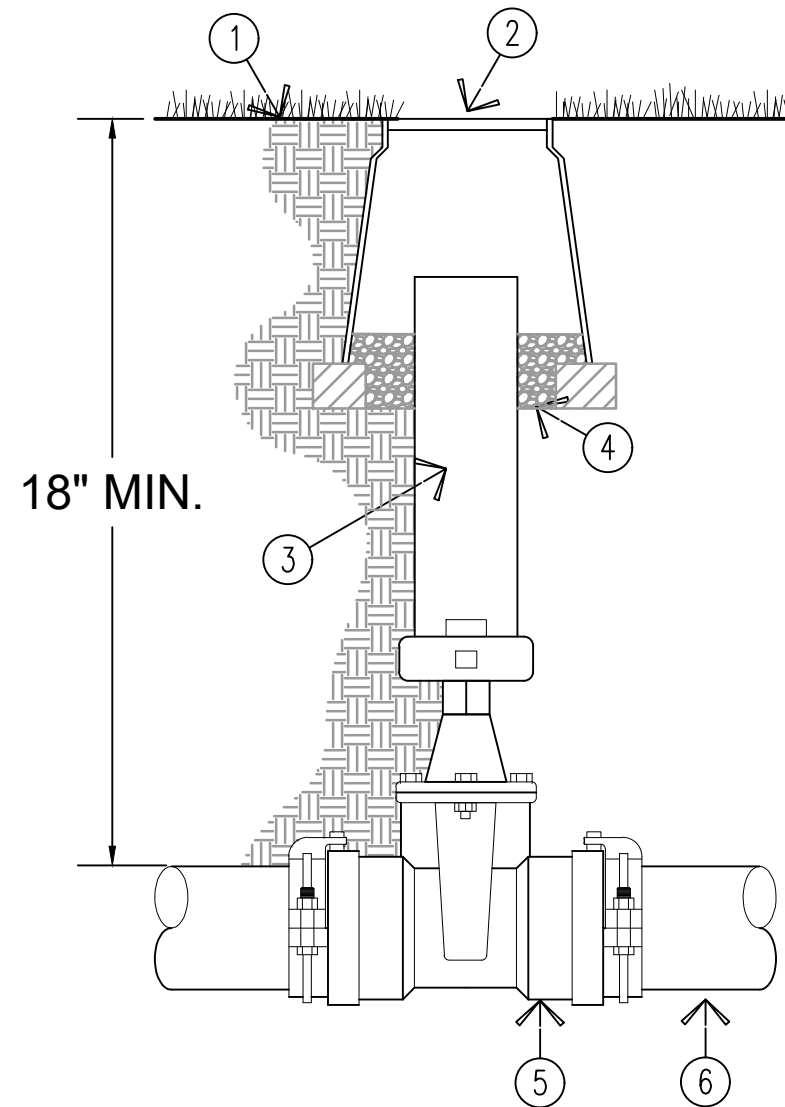
LANDSCAPE & IRRIGATION DETAIL



- ① FINISH GRADE
- ② 10" CARSON BROOKS ROUND VALVE BOX
- ③ 4" CL/200 SLEEVE
- ④ 3/4" WASHED GRAVEL
- ⑤ LEEMCO SS GATE VALVE
- ⑥ MAIN LINE PIPE

F1 SMALL ISOLATION/LINE VALVE SCALE: NTS

LANDSCAPE & IRRIGATION DETAIL

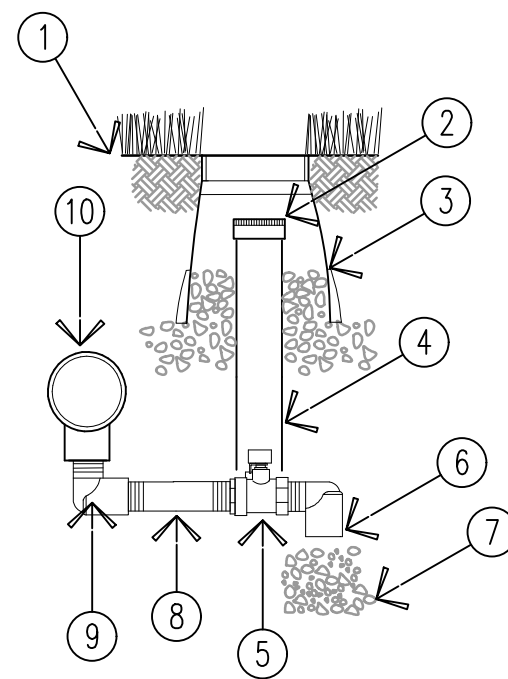


- ① FINISH GRADE
- ② 10" CARSON BROOKS ROUND VALVE BOX
- ③ 6" CL/200 SLEEVE
- ④ 3/4" WASHED GRAVEL
- ⑤ LEEMCO D/I R/W VALVE
- ⑥ MAIN LINE PIPE

F2 LARGE ISOLATION/LINE VALVE

SCALE: NTS

LANDSCAPE & IRRIGATION DETAIL



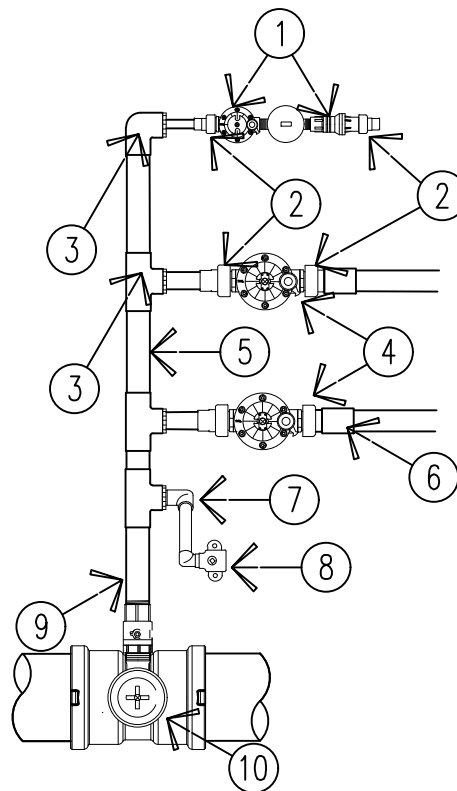
- ① FINISH GRADE
- ② IRRICAP / SNUG CAP
- ③ CARSON BROOKS
10" ROUND BOX
- ④ 2" SCH 40 PIPE
- ⑤ 3/4" CURB STOP VALVE
FORD B11-333M
- ⑥ MARLEX STREET ELL
- ⑦ 1 CU/FT 3/4" GRAVEL
- ⑧ 3/4" X 6" S/80 NIPPLE
- ⑨ 3/4" SCH 40 STREET ELL
- ⑩ MAIN LINE PIPE

F3

MANUAL DRAIN VALVE—SMALL

SCALE: NTS

LANDSCAPE & IRRIGATION DETAIL



- ① DRIP ZONE, JUMBO VALVE BOX
- ② ACTION MANIFOLD FITTINGS
- ③ **S/80 FITTINGS
- ④ RCV IN CARSON STANDARD 1419 VALVE BOX
- ⑤ **S/40 MANIFOLD MAIN LINE
- ⑥ S/40 COUPLER OR BELL END
- ⑦ UNITIZED SWING JOINT (LASCO)
- ⑧ QUICK COUPLER IN 10" BOX
- ⑨ **S/80 TOE NIPPLE
- ⑩ DUCTILE IRON LATERAL TEE & LATERAL VALVE

NOTES:

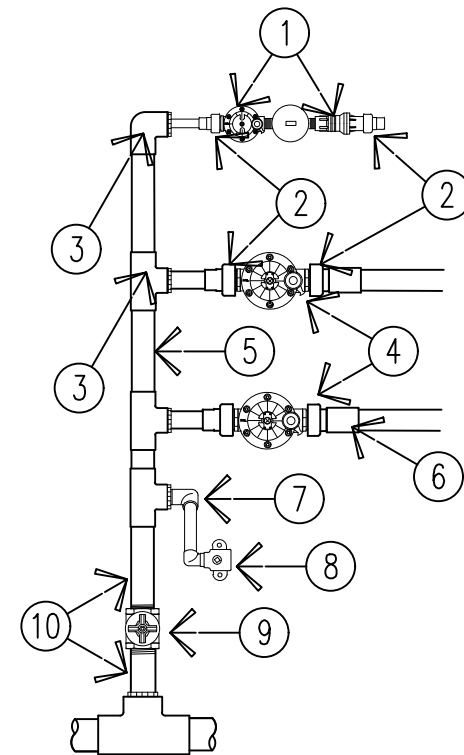
**INDICATES COMPONENT SHALL BE SAME SIZE AS LARGEST LATERAL ON THIS MANIFOLD. DOWNSTREAM OF BALL VALVE: MANIFOLD FITTINGS SHALL BE S/80, PVC PIPE SHALL BE S/40.
QUICK COUPLERS ARE NOT REQUIRED AT EVERY MANIFOLD. SEE PLAN FOR LOCATIONS.

F4

VALVE MANIFOLD (MAIN 2" AND LARGER)

SCALE: NTS

LANDSCAPE & IRRIGATION DETAIL



- ① DRIP ZONE KIT, JUMBO BOX
- ② ACTION MANIFOLD FITTINGS
- ③ **S/80 FITTINGS
- ④ RCV IN CARSON STANDARD 1419 VALVE BOX
- ⑤ **S/40 MANIFOLD MAIN LINE
- ⑥ S/40 COUPLER OR BELL END
- ⑦ LASCO UNITIZED SWING JOINT
- ⑧ QUICK COUPLER IN 10" BOX
- ⑨ **LEEMCO STAINLESS STEEL GATE VALVE
- ⑩ **S/80 TOE NIPPLE

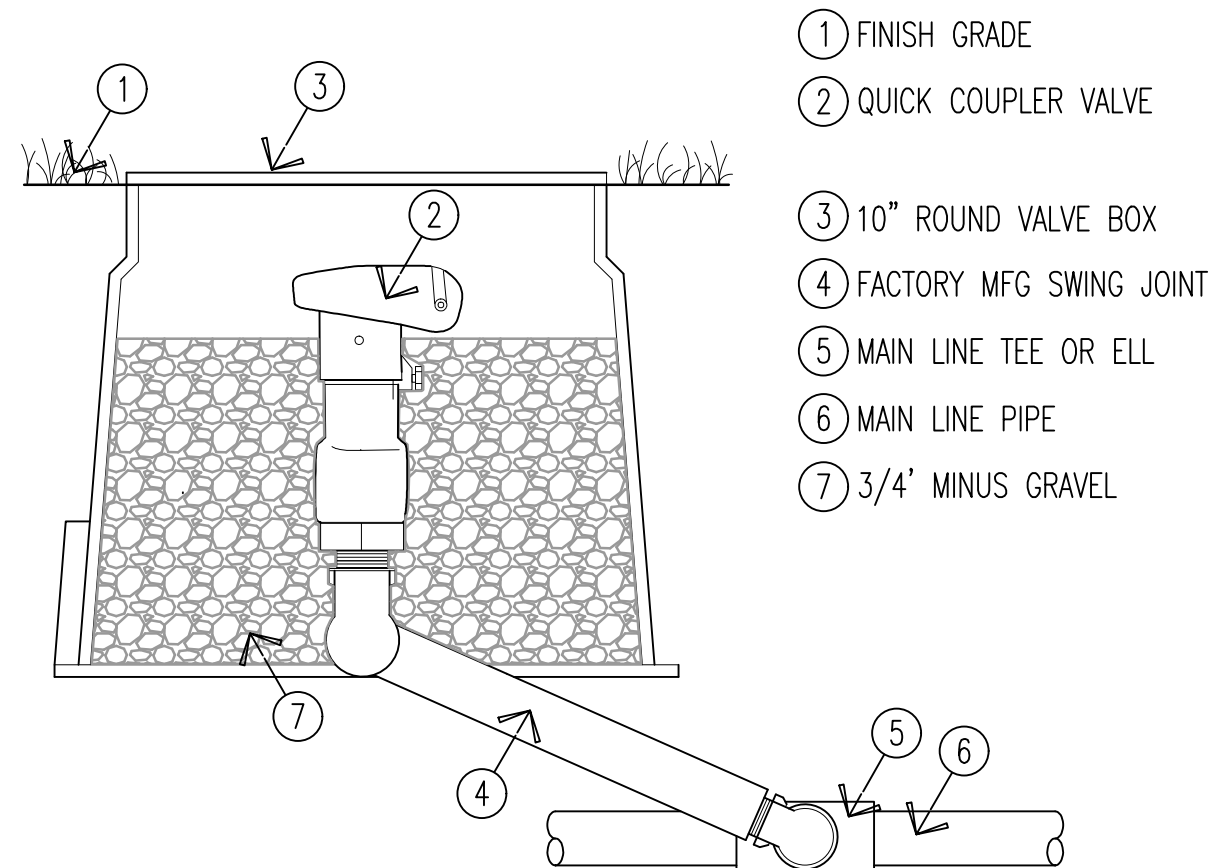
NOTES:

**INDICATES COMPONENT SHALL BE SAME SIZE AS LARGEST LATERAL ON THIS MANIFOLD. DOWNSTREAM OF GATE VALVE: MANIFOLD FITTINGS SHALL BE S/80, PVC PIPE SHALL BE S/40

F4 VALVE MANIFOLD (MAIN SMALLER THAN 2")

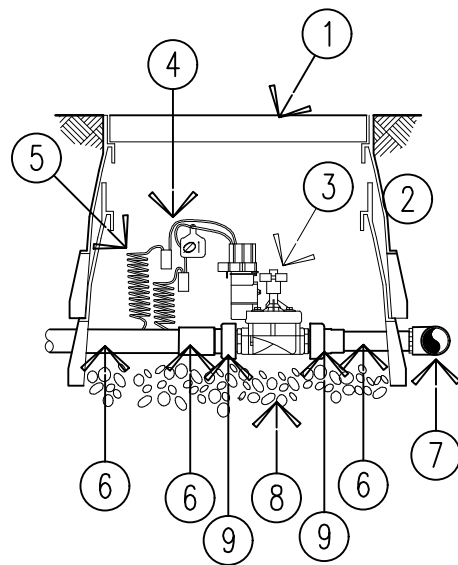
SCALE: NTS

LANDSCAPE & IRRIGATION DETAIL



F5 QUICK COUPLER VALVE
 SCALE: NTS

LANDSCAPE & IRRIGATION DETAIL

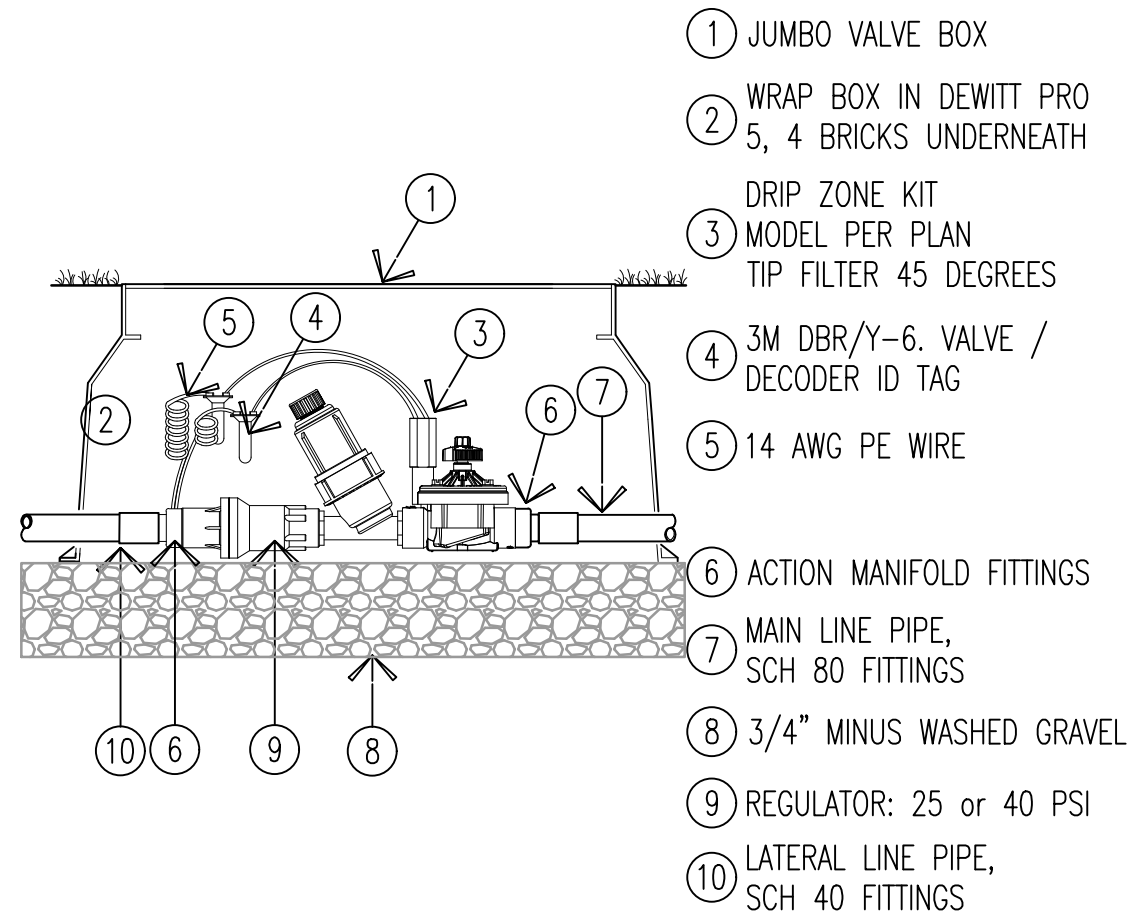


- ① STANDARD VALVE BOX
- ② WRAP BOX IN DEWITT PRO 5, 4 BRICKS UNDERNEATH
- ③ REMOTE CONTROL VALVE ONE PER BOX
- ④ 3M DBR/Y-6. VALVE / DECODER ID TAG
- ⑤ CONTROL WIRE (SEE OTHER DETAILS)
- ⑥ SCH 40 PIPE & FITTINGS
- ⑦ SCH 80 FITTINGS
- ⑧ 3/4" MINUS WASHED GRAVEL
- ⑨ ACTION MANIFOLD FITTINGS (2 EACH) 18011-X, 18012-X

F6 REMOTE CONTROL VALVE

SCALE: NTS

LANDSCAPE & IRRIGATION DETAIL



F7 DRIP CONTROL ZONE

SCALE: NTS

LANDSCAPE & IRRIGATION DETAIL

DISTANCE CHART

REFER TO THE FOLLOWING TABLE THAT LISTS THE LENGTH (IN FEET) FOR EACH SIZE/TYPE FITTING WITHIN WHICH ALL JOINTS JUST BE RESTRAINED. ALL FITTINGS AND JOINT RESTRAINTS SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS & SPECIFICATIONS.

AS AN EXAMPLE, IF YOU ARE INSTALLING A 3" MAINLINE WITH A DIRECTIONAL CHANGE OF 90°, REFER TO CHART UNDER PIPE SIZE TO 3" AND UNDER BENDS 90 YOU WILL SEE THE DISTANCE OF 11'. IF THERE IS ANY JOINT (VALVE, BELL, ETC.) YOU MUST INSTALL A JOINT RESTRAINT WITHIN 11' OF THE 90° MAINLINE DIRECTIONAL CHANGE.

PIPE SIZE	BENDS				REDUCERS			DEAD END	
	11°	22°	45°	90°	1 STEP	2 STEP	3 STEP	BLIND	SERV. B.
2"	1'	1'	2'	6'	-	-	-	19'	6'
2.5"	1'	2'	4'	9'	4'	-	-	23'	10'
3"	2'	3'	6'	11'	8'	10'	-	30'	15'
4"	2'	4'	9'	20'	14'	20'	31'	45'	25'
6"	3'	6'	13'	29'	30'	40'	53'	63'	40'
8"	4'	8'	15'	38'	33'	55'	63'	75'	70'
10"	5'	9'	19'	45'	36'	56'	75'	96'	90'
12"	5'	10'	21'	53'	38'	60'	83'	112'	110'

THESE CHARTS ARE BASED ON USE OF LEEMCO PRODUCTS, AND PROVIDED AS REFERENCE ONLY. CONTRACTOR SHALL CONTACT CORRESPONDING MANUFACTURER REPRESENTATIVE FOR PROPER CHARTS, TRAINING AND CERTIFICATION IF OTHER PRODUCTS ARE SUBMITTED AND APPROVED. FOR USE OF LEEMCO PRODUCTS, CONTACT TONY GARNER @ (208) 631-7787, THE LEEMCO REPRESENTATIVE, FOR ALL QUESTIONS CONCERNING LEEMCO PRODUCTS.

INSTALLATION CHART

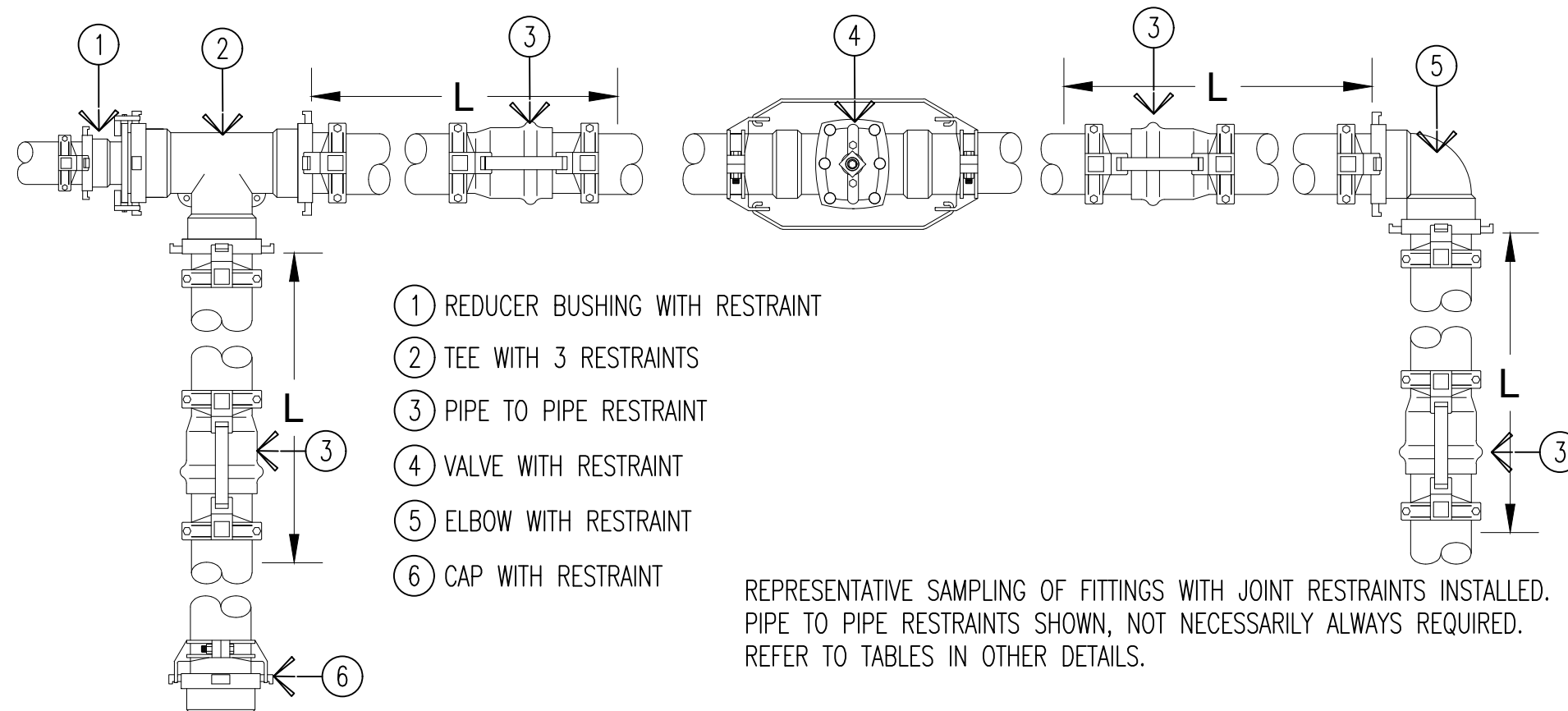
REFER TO THE FOLLOWING TABLE WHICH LISTS THE NUMBER OF BOLTS, SIZE, AND TORQUE FOR EACH BOLT IN REFERENCE TO THE SIZE OF PIPE WHICH IS BEING RESTRAINED.

AS AN EXAMPLE, IF YOU HAVE A 3" PIPE, YOU WILL NEED 2 BOLTS THAT ARE 3/8 X 2.5" AND TIGHTEN THEM WITH A TORQUE WRENCH TO 20 FT-LBS.

PIPE SIZE	NO. BOLTS	BOLT SIZE	TORQUE FT-LBS.
2"	2	3/8" x 2.5"	20
2.5"	2	3/8" x 2.5"	20
3"	2	3/8" x 2.5"	20
4"	2	1/2" x 3"	50
6"	2	1/2" x 3.5"	50
8"	4	1/2" x 4"	50
10"	4	5/8" x 5.5"	100
12"	4	5/8" x 5.5"	100

G1

JOINT RESTRAINT TABLES

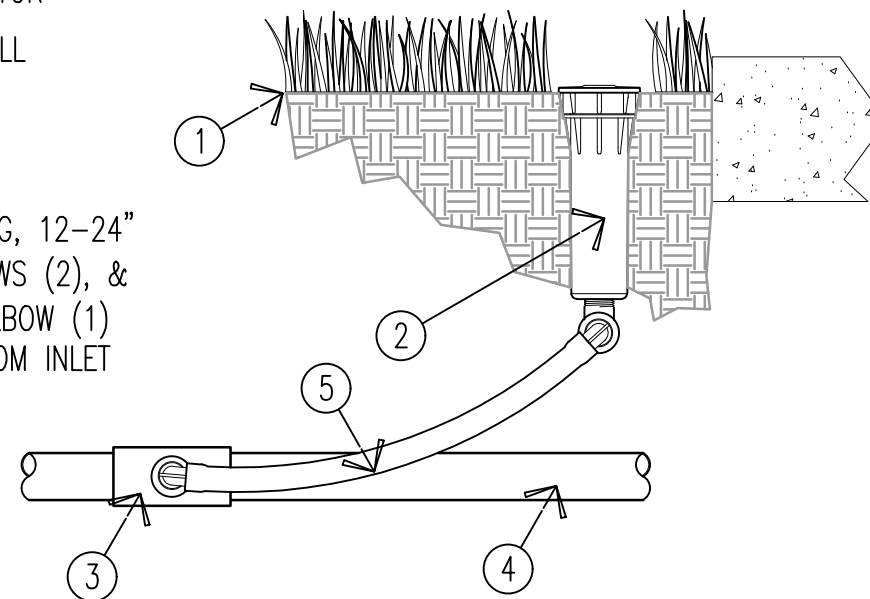


G2 TYPICAL JOINT RESTRAINT LAYOUT (2-1/2" & LARGER)

SCALE: NTS

PLAN VIEW DETAIL

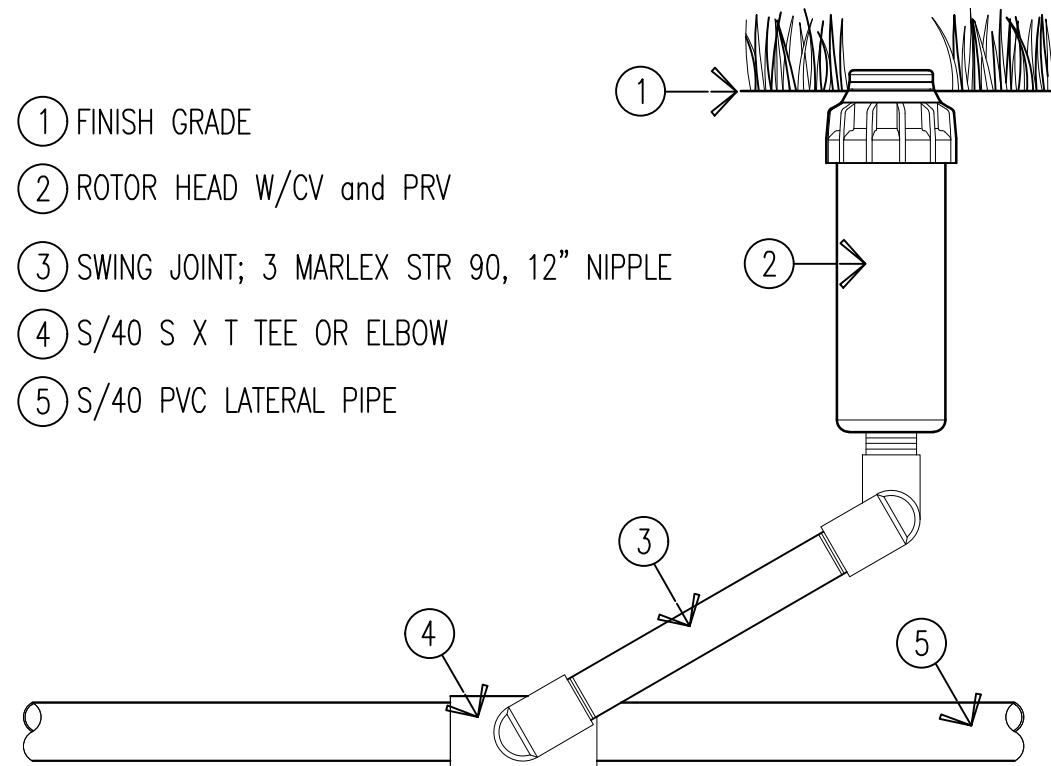
- ① FINISH GRADE
POP-UP SPRAY HEAD
- ② W/CHECK VALVE AND
PRESSURE REGULATOR
- ③ LATERAL TEE OR ELL
- ④ LATERAL PIPE
- SWING JOINT:
FUNNY PIPE TUBING, 12-24"
- ⑤ 1/2" FUNNY ELBOWS (2), &
MARLEX STREET ELBOW (1)
ALWAYS USE BOTTOM INLET



H1 SPRAY HEAD W/FIXED OR ROTARY NOZZLE

SCALE: NTS

LANDSCAPE & IRRIGATION DETAIL



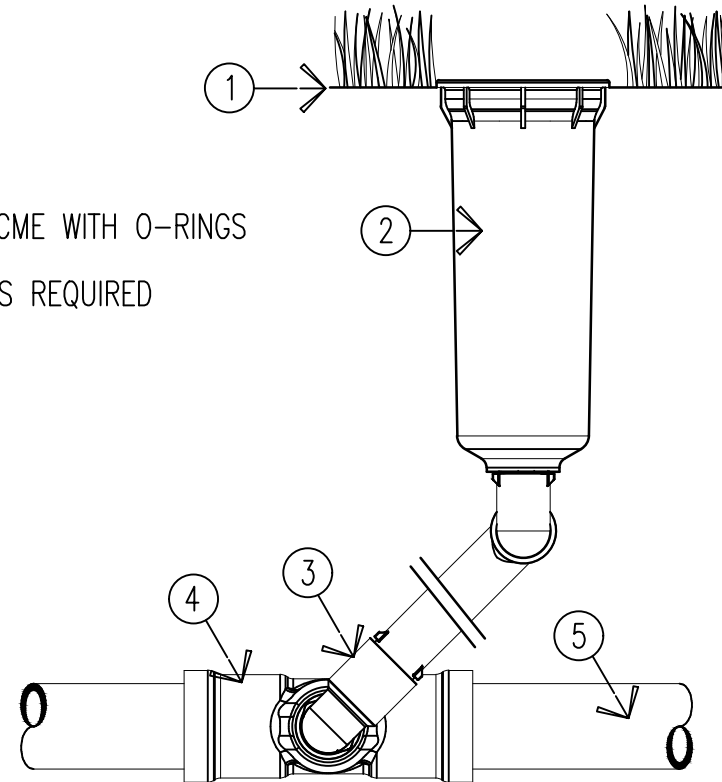
H2

POP UP ROTOR HEAD

SCALE: NTS

LANDSCAPE & IRRIGATION DETAIL

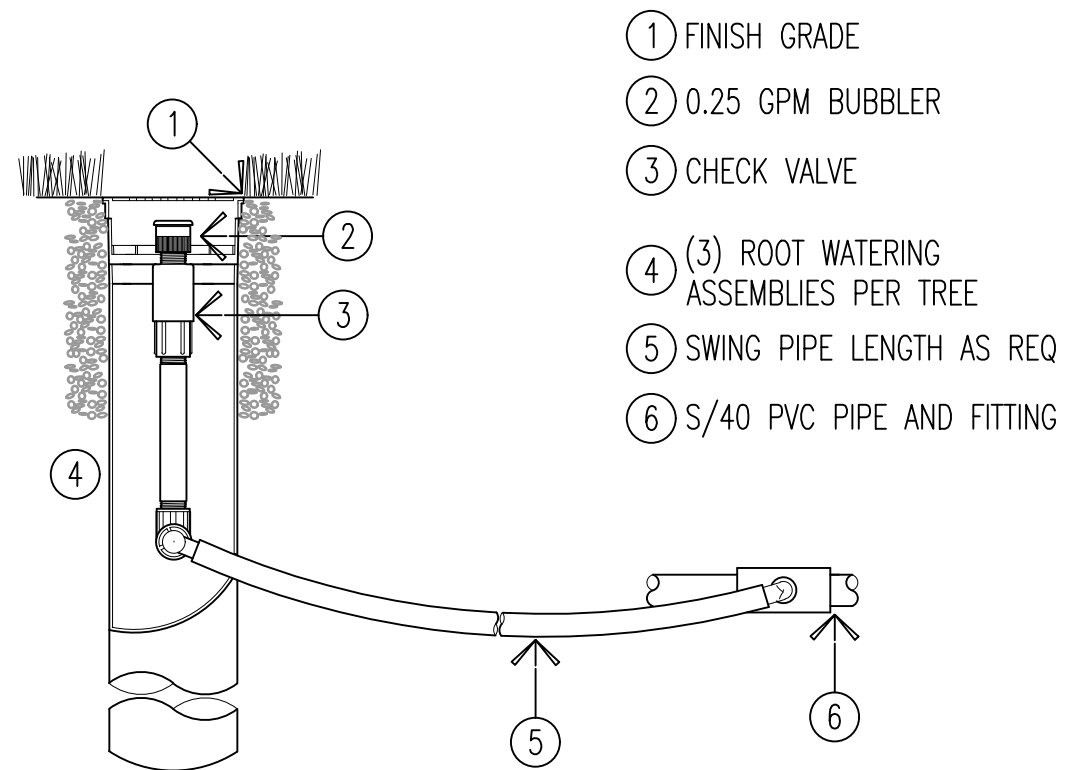
- ① FINISH GRADE
- ② SPORTS TURF HEAD
- ③ SWING JOINT: UNITIZED, ACME WITH O-RINGS
- ④ FITTING, TEE OR ELBOW AS REQUIRED
- ⑤ S/40 PVC LATERAL PIPE



SPORTS TURF ROTOR

SCALE: NTS

LANDSCAPE & IRRIGATION DETAIL

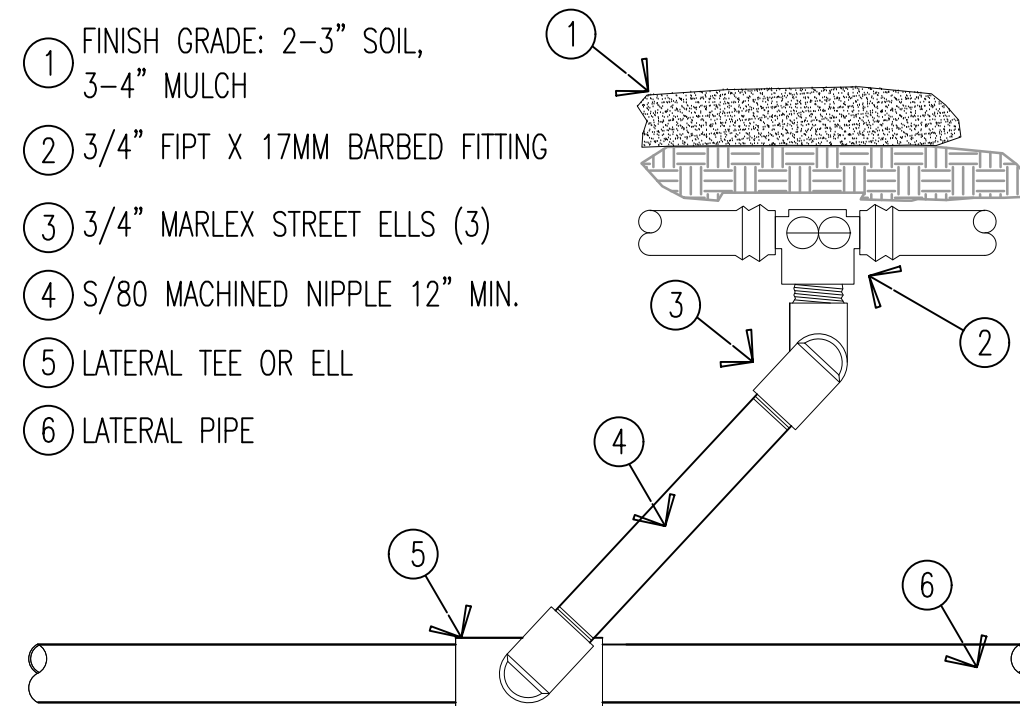


11

ROOT WATERING BUBBLER ASSEMBLY

SCALE: NTS

LANDSCAPE & IRRIGATION DETAIL

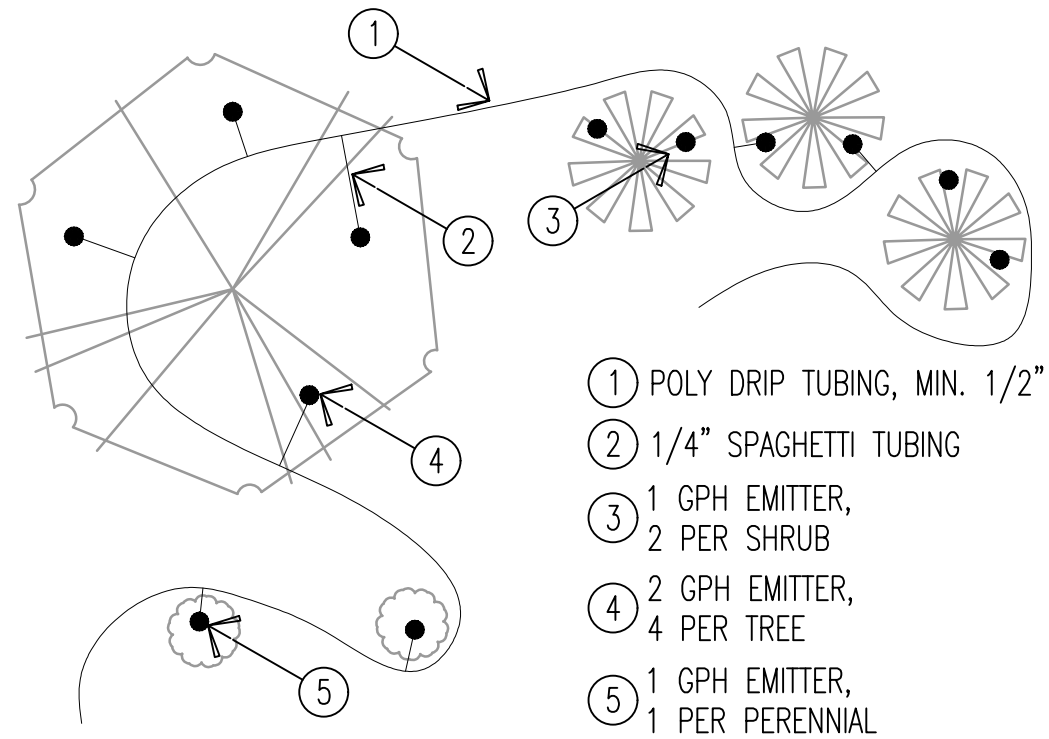


12

DRIP PVC TO POLY TRANSITION

SCALE: NTS

LANDSCAPE & IRRIGATION DETAIL



LOCATE EMITTER ON UPHILL SIDE OF PLANT ON SLOPES. BERM SOIL FOR WATER BASIN ON EACH PLANT.

13 DRIP POINT SOURCE EMITTER LAYOUT

SCALE: NTS

LANDSCAPE & IRRIGATION DETAIL